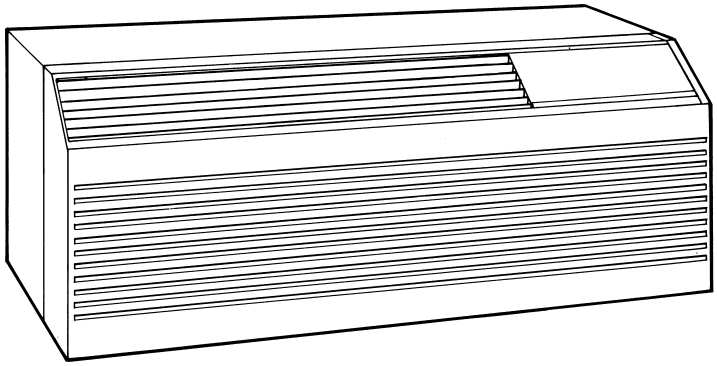
ARCHITECTS AND ENGINEERS' MANUAL

MODEL 52S PACKAGED TERMINAL AIR CONDITIONERS AND HEAT PUMPS



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APPLICATIONS

Whether you are designing a new structure or replacing the packaged terminal air conditioning units in an existing building, Carrier will meet your needs.

- Hotels and motels
- Nursing homes and assisted living care centers
- Offices
- Apartments
- Single-family dwellings
- Home conversions and residential add-ons

NEW CONSTRUCTION

The Carrier 52S unit is designed to meet the needs of the architect, engineer, and contractor. For unit installation, Carrier's expert support network will assist in all applicable aspects of the construction project, from preparing a budget to start-up.

ADVANTAGES OF THE PACKAGED TERMINAL AIR CONDITIONER FOR NEW CONSTRUCTION

DESIGN FLEXIBILITY FOR THE ARCHITECT/ENGINEER	• Super-quiet performance, indoors and out • No bulky duct system • No separate equipment room • No water towers or additional cooling equipment • No complex match-up of different HVAC components • Less sensitivity to building orientation (sun, wind, shade) • Optional architectural grille to permit custom exterior appearance
INITIAL COST SAVINGS FOR THE BUILDING OWNER	• No expensive component HVAC system purchase • No equipment room or maintenance engineering staff • Two-part delivery to minimize on-site damage • Weather-protected wall sleeve that goes in place during construction; chassis that slides in place after construction • No seasonal changeover required for cooling or heating — units are self-contained comfort systems
LOWER OPERATING COSTS AND RELIABLE COMFORT FOR THE OCCUPANT	• Heat pump models offer substantial savings over conventional electric resistance heaters • Individual units allow tenants to choose the degree of comfort and operating economy • Rapid servicing reduces downtime: complete chassis can be replaced in minutes without disrupting other occupants. • Each unit operates independently of other units in the building. No dependency by building on individual units.

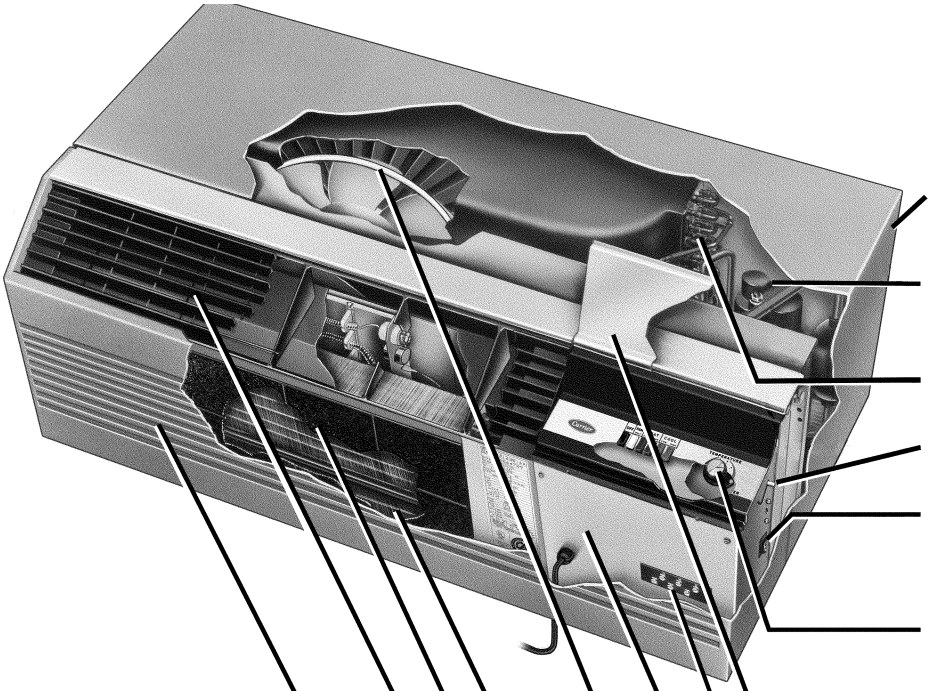
RETROFIT/REPLACEMENT

If you are replacing existing units, your options include:

- Replacing the existing wall sleeve with a Carrier Weather Last™ sleeve
- Using an existing sleeve made by another manufacturer. The 52S Series chassis can be adapted with a simple accessory kit to fit existing GE, Amana, and Trane wall sleeves. All other sleeve applications need approval from Carrier.

PRODUCT OVERVIEW

This section summarizes product features covered in detail in later sections:



Polymer Sleeve — Designed for rugged duty, acoustic absorption, and attractive appearance for years to come.

Rotary Compressors — Provide quiet, reliable operation.

Copper Tube Fin Coils — Enhanced coils provide durability, high performance, and ease of operation.

Fresh Air Control Arm — Allows outdoor air into room through foam filter for improved air quality.

Fan Cycle Switch — Dual options:
(1) Continuous fan operation.
(2) Cycle fan ON and OFF with compressor operation.

Temperature Limiter — Allows temperature range restraints for the unit by making a simple service adjustment.

Control Door — Provides protection for controls and enhances appearance.

Wall Thermostat — Up to six field wiring terminals for connecting a wall thermostat.

Easy Access to Electrical Components — Simply remove two screws and drop down the control box.

Improved Condensate Removal — Minimizes condensate water on outside of building.

Thermostat — Provides improved temperature control.

New One-Piece Filter Design — Provides improved air filtration and can be removed easily for cleaning.

Durable Discharge Grille — Made of polycarbonate; holds up under the toughest conditions.

Louvered Front Cover — Made of durable polycarbonate. Provides improved performance and quiet operation.

PRODUCT FEATURES AND BENEFITS

The 52S model is a single-package, through-the-wall unit for heating and cooling hotel rooms, offices, apartments, condominiums, and residential additions. The 52S Series features include:

- Quiet operation
- Exceptional energy efficiency ratios (EERs)
- Multi-room structure design
- Fixed wall sleeve, slide-out chassis
- Attractive, durable cabinet
- Chassis that retrofits to most major competitors' sleeves
- Low operating costs
- No bulky duct system
- No seasonal changeover

QUIET OPERATION

Occupants and neighbors are protected against noise intrusion. Indoor sound reduction is achieved because of the unit's design and its louvered front cover, split scroll and blower, and heavy gage unit partition. Rotary compressors provide quiet, reliable operation. The split scroll provides a more uniform air discharge.

The new aerodynamic condenser shroud design improves airflow and reduces outdoor noise, providing a more relaxing outdoor environment. The propeller-type fan and stator design allow efficient low-speed operation.

The **Quiet** is engineered into every 52S Unit.

MOST EFFICIENT PERFORMANCE

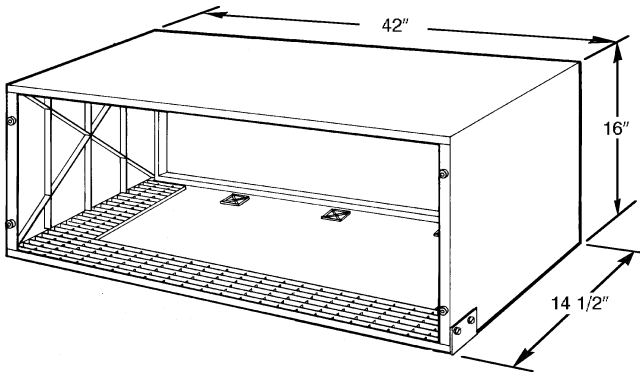
High EERs provide excellent operating economy. The system operates without bulky ductwork, separate equipment room, and complex match-up of different components. Heating and cooling modes are available without seasonal changeover.

EFFICIENT FAN MOTOR

An efficient, totally enclosed PSC (permanent split capacitor) fan motor provides a choice of high or low speeds for heating and cooling. A fan-only setting provides air circulation. **The fan motor requires no maintenance and no lubrication**.

NO-RUST WEATHER LAST™ WALL SLEEVE AND FRONT PANEL

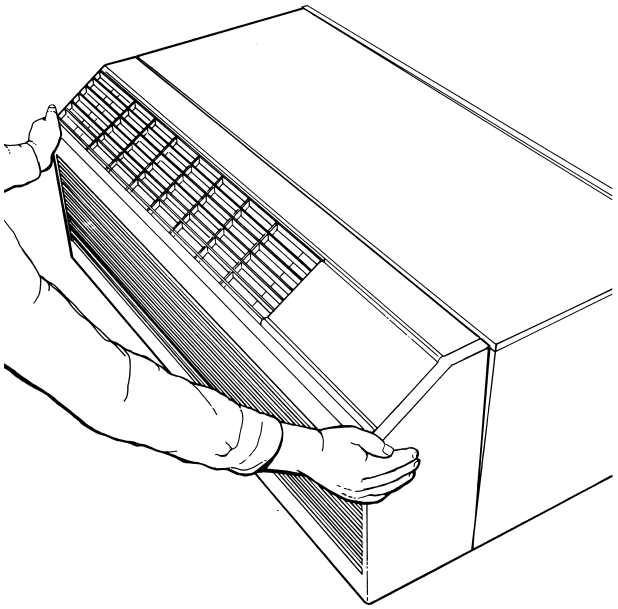
The indoor front panel and wall sleeve use nonmetallic compounds that never rust or corrode, do not support combustion, and do not give off toxic fumes. The weather-resistant feature exceeds requirements of Underwriters' Laboratories and resists damage caused by impact and scratching. The Weather Last feature also insulates and has up to 10 times the acoustic absorption of metal cabinets.



Wall Sleeve

Removable Front Panel

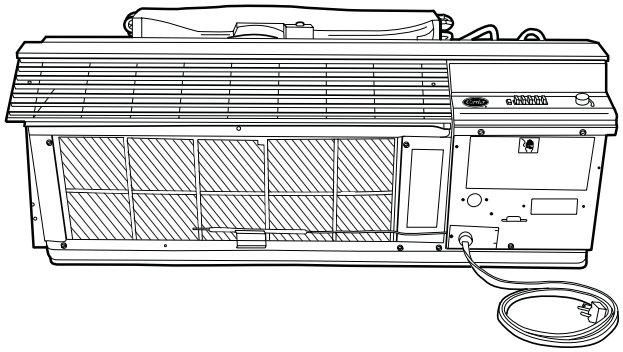
The louvered front panel fits firmly onto the chassis. The panel is easily removed for service and filter access without removing screws. It provides front air intake to enhance performance and quiet operation. It also provides the option of flush mounting to the floor.



Removable Front Panel

ONE-PIECE WASHABLE INDOOR FILTER

The filter covers the entire surface area of the coil. Once the front panel is removed, the filter simply snaps out of the track. The one-piece, molded plastic frame with polyurethane filter retains its shape and meets hospital and nursing home requirements. The filter may be washed or vacuumed repeatedly.

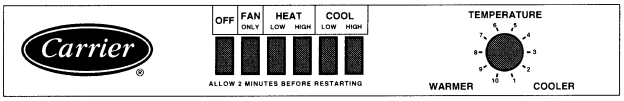


One-Piece Indoor Filter

PRODUCT FEATURES AND BENEFITS (cont)

DURABLE CONTROL PANEL DOOR AND EASY-TO-USE CONTROLS

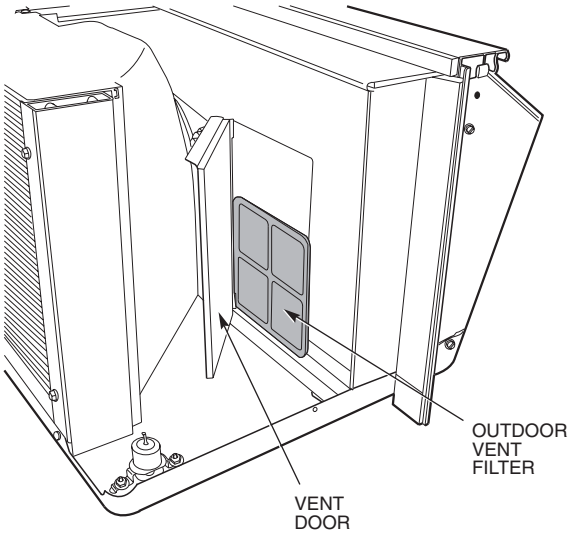
The reinforced control door conceals controls and features an attractive surface that will not chip. The hinge and door are extruded as one piece and provide protection from demanding transient use. The door is sloped to discourage use as a shelf. Easily accessible from the room side, the control buttons and thermostat are clearly marked and simple to use.



52S Cooling/Heating Unit Control Panel

WASHABLE VENT AIR FILTER

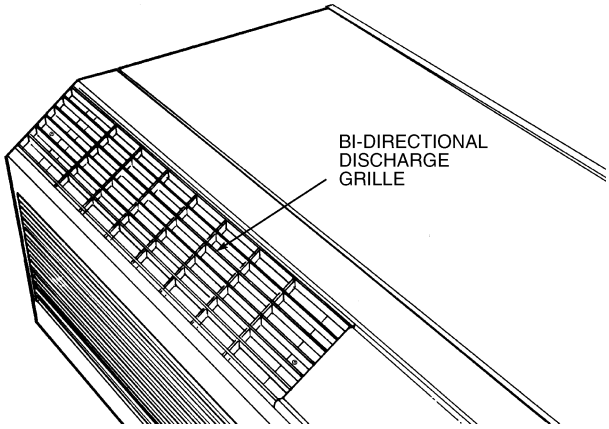
The unique duct system is activated by a two-position control. Fresh outside air is redirected by the vent door to an inside low-pressure area. A molded plastic filter prevents dirt and debris from entering the room side of the unit. The vent mechanism is made from noncorrosive material ensuring reliable operation. High-pressure airflow creates a tight, draft-free seal when the vent door is closed.



Outdoor Vent Filter Location (Left Side of Chassis)

BI-DIRECTIONAL DISCHARGE GRILLE

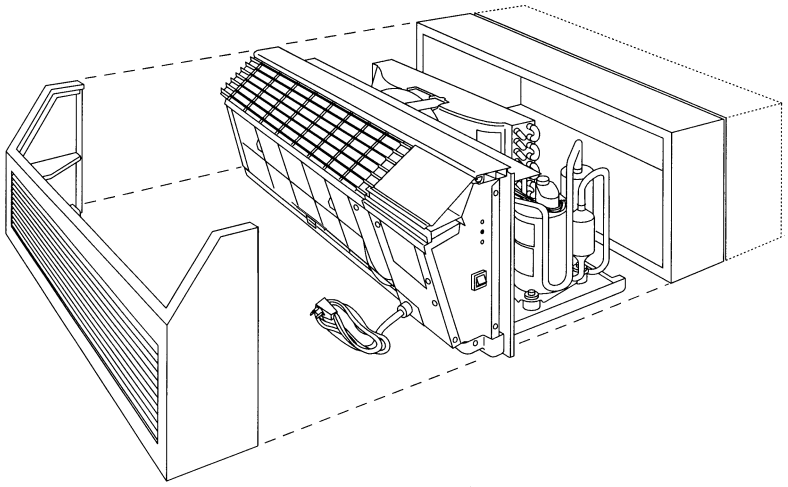
The discharge grille is made of durable polycarbonate and is reversible. Air flows upward at an 80 degree angle to the floor but can easily be adjusted toward the horizontal for airflow at a 53 degree angle to the floor. The discharge grille is cool to the touch during the heating cycle.



Reversible Polycarbonate Discharge Grille

EASY ACCESS TO CHASSIS

Access to the chassis simply requires removing four screws and then sliding the chassis out of the sleeve for service. Once the power is turned off, connectors can be separated on hard-wire units, or the power cord can be disconnected on cord-connected units.



Easy Service Access

HIDDEN CONTROLS

The factory-wired control box houses all control components and is quickly accessible without removing the chassis from the wall sleeve. Remove two screws and the hinged door lowers, providing quick access to all the components and the wiring diagram.

Temperature Limiter

The limiter reduces operating costs by allowing the owner to control the range of cooling and heating temperatures available to the occupant. It is located under the control panel, out of the occupant's sight. Each setback on the limiter is equivalent to 5° F and the range of temperature settings available to the owner is from 60 to 90 F. The limiter is not pre-set at the factory.

The occupant's temperature control knob is conveniently located on the control panel and is clearly marked with a range of dial settings.

Outdoor Air Vent Control

The vent knob is located under the front panel. This knob slides to manually open and close the outdoor vent.

Fan Cycle Switch

This switch (not available on wall thermostat models) allows the fan to operate in 2 modes:

- Continuous — This setting allows the fan to run continuously, circulating air even when the temperature setting has been satisfied. This setting, which helps to keep the room temperature closer to the thermostat setting, is used for maximum comfort.
- Cycle — This setting allows the fan to cycle on and off with the compressor during heating or cooling. The fan stops when the temperature setting is reached. The longer unit off-time makes this option more energy-efficient with only slightly wider variations in room temperature.

PRODUCT FEATURES AND BENEFITS (cont)

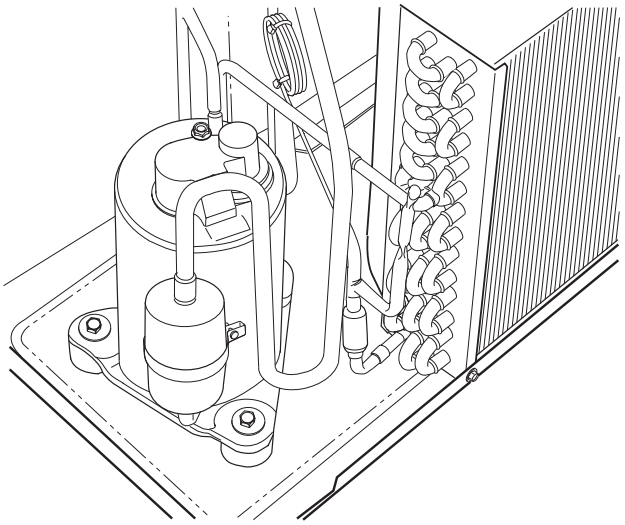
ENHANCED COPPER TUBING

Enhanced copper tubing is more efficient and durable and can be repaired in the field, if required.

Because copper is a very stable metal, it is durable and resists corrosion. Enhanced copper tubing increases:

- heat transfer capability
- the efficiency of the cooling and heating processes
- thermal conductivity (by creating additional tube surface and turbulent refrigerant gas flow)

Every Carrier PTAC coil undergoes thorough leak testing and pressure testing up to 350 lbs per square inch.



Enhanced Copper Tubing

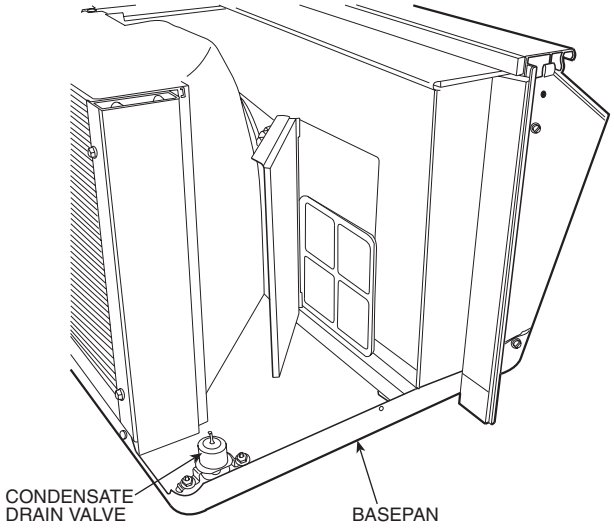
SEAMLESS BASEPAN

Seamless drawn basepan walls add protection against water accumulation resulting from storm-driven rain with heavy wind.

Carrier's deep basepan holds up to two gallons of water without spilling. Closed cell foam insulators are located between the basepan and coils, keeping coils from direct contact with the basepan and providing additional protection against corrosion.

CONDENSATE DRAIN VALVE

The temperature-activated drain opens when the outdoor temperature drops below 45 F to prevent water from freezing in the basepan.



Deep Basepan Protects Against Water Accumulation

CONDENSATE REMOVAL SYSTEM

Carrier's 52S Series units have a slinger ring around the outside of the outdoor fan propeller. Condensate (water) in the unit basepan is picked up by the slinger ring and dispersed onto the hot outdoor condenser coil. The heat from the coil evaporates the condensate and cools the coil at the same time, thereby removing condensate and increasing the unit's efficiency.

NOTE: If it is necessary to remove 100% of the condensate, we recommend using the Carrier Drain Kit (Part No.: DRAIN-KIT-4PK).

CARRIER WARRANTY

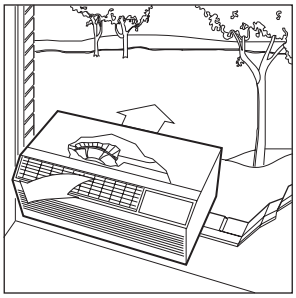
Carrier's full one-year warranty is the most comprehensive in the industry. In addition, Carrier provides:

- Full coverage for parts and labor.
- Four additional years of coverage on sealed refrigeration systems.
- Limited second through fifth year coverage on non-refrigeration system parts.

HEAT PUMPS PAY THEIR OWN WAY

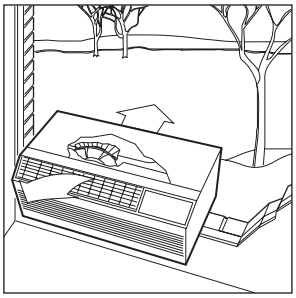
Heat pump models are available at a nominal additional cost. In many locales, the payback is realized in just a few months. Cost and payback details are provided on the next page.

How The Heat Pump Works



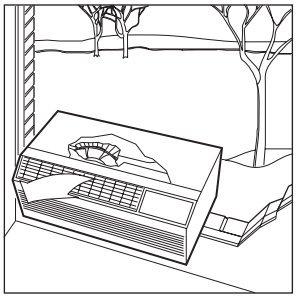
In Hot Weather:

Carrier's Series 52S series units provide indoor comfort in the same manner as conventional air conditioners, removing heat and humidity from indoor air. The heat and humidity is released to the outdoors. Carrier's high efficiency design saves energy and reduces cooling costs.



In Cool Weather:

When the outdoor temperature is above 25 F, the heat pump draws heat from outdoor air and uses it to heat indoor air. Since heat is transferred and not produced, Carrier's heat pump uses less electricity and reduces energy costs significantly.



In Sub-Freezing Weather:

When the outdoor temperature falls below 25 F, the unit automatically switches on a built-in electric heater. The compressor stops and a blower circulates warm air produced by the heater. When the outdoor temperature rises above 40 F, heat pump operation resumes automatically.

Special Features

Two-Stage Indoor Thermostat:

The indoor thermostat senses the indoor temperature and automatically turns on the electric heat to warm the room quickly. After the desired temperature conditions have been satisfied, the thermostat automatically switches to heat pump mode. If compressor failure occurs, the thermostat will provide backup electric heat automatically.

Outdoor Thermostat:

During the heating cycle, the outdoor thermostat senses outdoor temperature. It switches the unit to electric heat mode when the outdoor temperature is 25 F or below. The thermostat switches the unit back to heat pump mode when the outdoor temperature rises above 40 F, which is enough to provide heat to meet demand. The entire operation is completely automatic.

Reversing Valve:

The reversing valve provides quiet refrigerant flow after the unit shuts off. The valve controls the direction of refrigerant flow for both heating and cooling functions and remains energized as long as the controls are in the heat position. When the cooling controls are activated, the valve automatically reverses to the cooling position.

Manual Compressor Override Switch:

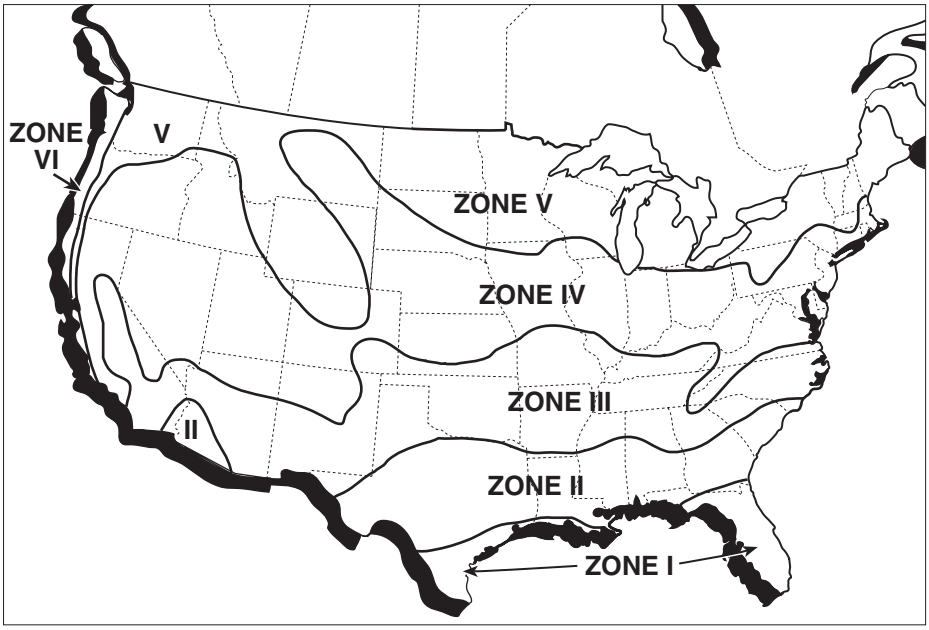
This switch completely locks out the compressor. Note that the compressor and heater do not operate at the same time, thus conserving energy.

PRODUCT FEATURES AND BENEFITS (cont)

HEAT PUMP ENERGY SAVINGS

Heat pumps save more on operating costs during the heating cycle than heat/cool models. The table below shows that the higher initial cost of purchasing a heat pump is quickly made up in lower operating costs.

Use the map to identify the climate zone's designated number. Reading down the left-hand column of the table, select the cost/kWh rate in this zone that most closely approximates your local rate. The approximated savings and payback period is found at the intersection of your zone/rate line and the desired Btuh Cooling Capacity column. Exact savings are determined by lifestyle, local electrical rates, and climatic conditions.



CARRIER HEAT PUMP INITIAL COST VERSUS SAVINGS OVER HEAT/COOL MODELS

ZONE	ELECTRIC COST/kWH	7000 BTUH[1] COOLING CAPACITY	$60 PREMIUM	9000 BTUH[2] COOLING CAPACITY	$75 PREMIUM	12000 BTUH[2] COOLING CAPACITY	$90 PREMIUM	14000 BTUH[3] COOLING CAPACITY	$110 PREMIUM
		Annual Savings*	Payback in Months	Annual Savings*	Payback in Months	Annual Savings*	Payback in Months	Annual Savings*	Payback in Months
I	$.06	$ 31.00	23	$ 58.07	16	$ 63.39	17	$ 77.45	17
	$.08	$ 41.69	17	$ 76.74	12	$ 82.52	13	$103.64	13
	$.10	$ 52.38	14	$ 96.44	9	$102.86	11	$129.82	10
II	$.06	$ 47.03	15	$ 87.11	10	$ 94.48	11	$113.45	12
	$.08	$ 63.07	11	$116.15	8	$126.78	9	$150.55	9
	$.10	$ 79.10	9	$145.19	9	$157.87	7	$187.64	7
III	$.06	$112.24	6	$108.89	8	$114.82	9	$138.55	10
	$.08	$148.59	5	$144.15	6	$153.09	7	$185.45	7
	$.10	$186.00	4	$168.00	5	$191.36	6	$231.27	6
IV	$.06	$ 42.76	17	$100.59	9	$105.25	10	$127.64	10
	$.08	$ 69.48	10	$132.74	7	$138.74	8	$170.18	8
	$.10	$ 87.66	8	$166.96	5	$174.62	6	$211.64	6
	$.12	$103.69	7	$200.15	4	$209.30	5	$255.27	5
	$.14	$121.86	6	$233.33	4	$243.98	4	$297.82	4
	$.16	$140.03	5	$266.52	3	$278.67	4	$339.27	4
V	$.06	$ 41.69	17	$ 78.81	11	$ 82.52	13	$ 99.27	13
	$.08	$ 55.59	13	$105.78	9	$110.03	10	$133.09	10
	$.10	$ 69.48	10	$131.70	7	$137.54	8	$166.91	8
	$.12	$ 83.38	9	$158.67	6	$165.05	7	$199.64	7
	$.14	$ 97.28	7	$189.59	5	$192.56	6	$233.45	6
VI	$.06	$110.10	7	$206.37	4	$221.26	5	$268.36	5
	$.08	$146.45	5	$275.85	3	$295.41	4	$357.82	4
	$.10	$182.79	4	$344.30	3	$368.37	3	$447.27	3
	$.12	$220.21	3	$413.78	2	$442.52	2	$536.73	2

* Computer projections based on full cooling load at 95° F. Savings projected for 230-v ratings only.
[1]Heating load is 5,000 Btuh at winter design point temperature.
[2]Heating load is 10,000 Btuh at winter design point temperature.
[3]Heating load is 15,000 Btuh at winter design point temperature.

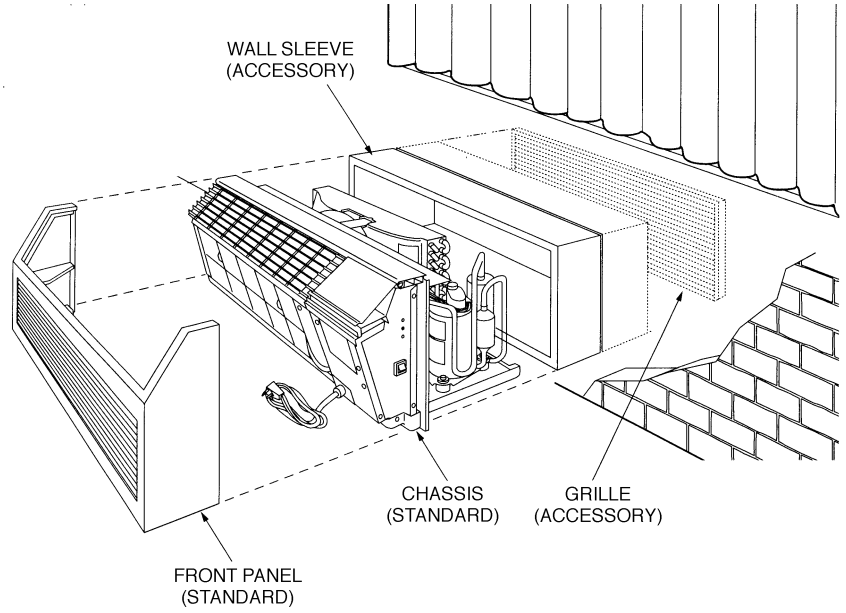
ORDERING DATA

For immediate assistance, call 1-800-827-7435.

Standard 52S Unit

- Chassis with front panel
- Electro-mechanical pushbutton control
- Cord-connected chassis for 230/208V units
- 265V cord or hard-wired accessory kit (must be ordered separately)

Lead-time: Most 230/208V models are in stock; call for lead-times for other models.



Standard 52S Unit

PRODUCT CATALOG NUMBER

Cooling-only units are not available with RC (wall thermostat control) option.

52 SE – 3 09 --- 3 -- CP

Series Designation
PTAC (Packaged Terminal Air Conditioner)

SC — Cooling Only
SE — Cooling with Electric Heat
SQ — Heat Pump

Electric Heater Size
0 — No Heater
2 — 2.3 kW
3 — 3.4 kW
5 — 5.0 kW

Cooling Capacity (nominal)
07 — 7,000 Btuh
09 — 9,000 Btuh
12 — 12,000 Btuh
14 — 14,000 Btuh

Chassis Options
Blank — Standard
CP — Corrosion Protection
RC — Wall Thermostat Control
RP — Wall Thermostat Control and Corrosion Protection

Electrical Data
3 — 230/208-v, 60 Hz
4 — 265-v, 60 Hz

ORDERING DATA (cont)

FACTORY-INSTALLED OPTIONS

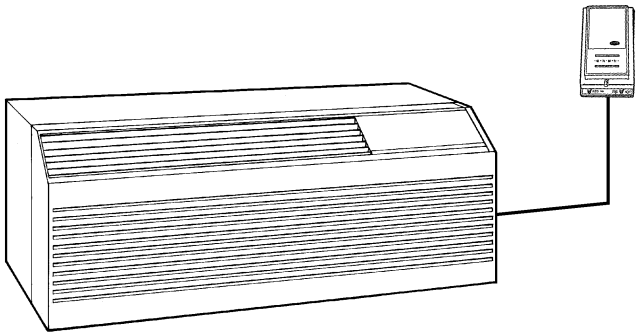
Wall Thermostat Control (RC)

Carrier's wall thermostat control option includes:

- a standard chassis with front panel
- factory-installed low voltage controls for remote thermostat operation

A wall thermostat must be ordered separately.

NOTE: A heat/cool or heat pump thermostat is available for each application. Be sure to connect reversing valve wiring to the B connection of the thermostat for heat pump applications.

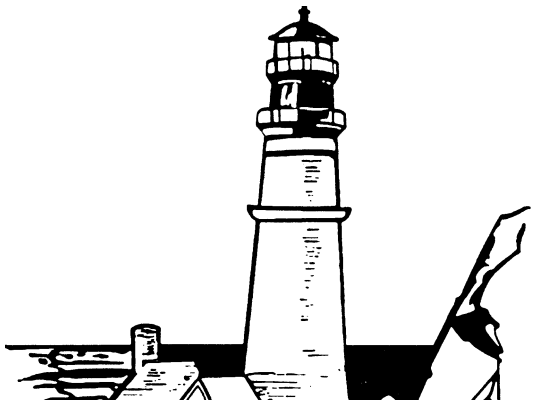


Corrosion Protection (CP)

To protect against the corrosive effects of a seacoast environment, this option includes:

- a standard chassis with front panel
- special protections consisting of:
  - — painted control box and unit partitions
  - — pre-coated aluminum coils with copper tubing
  - — stainless steel tube sheets (outdoor coil)
  - — totally enclosed fan motor with moisture-resistant windings

NOTE: All installations within one mile of the sea coast or other corrosive environment must use Corrosion Protection (CP).



FIELD-INSTALLED ACCESSORIES

Weather Last™ Wall Sleeve

Part No.: WALL-SLEEVE-1PK
Part No.: WALL-SLEEVE-9PK

It is recommended that a Carrier sleeve be used with a Carrier chassis. However, an accessory Retrofit Kit may be ordered when fitting a new 52S unit into an existing sleeve. See Accessory Retrofit Kit for GE Sleeve on page 19 and Amana/Trane Sleeve on page 20.

The Carrier accessory wall sleeve is made from a molded polymer that is designed for strength and durability. This material has excellent corrosion resistance and a **flammability rating of UL94-5V.** The polymer sleeve absorbs sound, provides better insulation than a metal sleeve, and offers years of protection against the elements.

The beige (alpine mist) finish blends in well with inside or outside decor. The sleeve surface is textured to prevent shine and hide scratches.

The sleeve is packaged in a heavy-duty cardboard carton with an internal corrugated stiffener to reduce the chance of damage during shipping and construction.

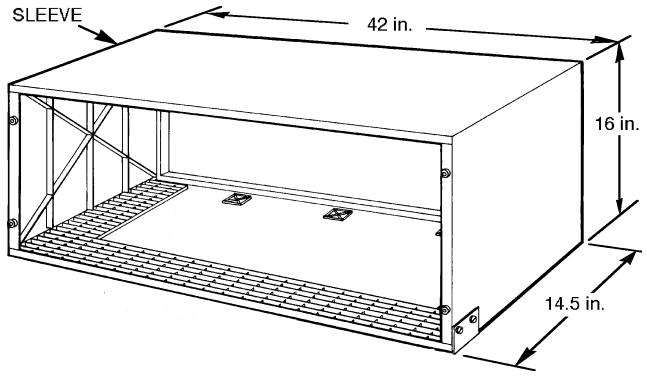
The rib configuration on the sleeve bottom allows easy chassis removal and aids in drainage. Water that overflows the basepan is channeled along the ribs to the drain openings on the back of the unit. **The sleeve is built with a pitch of $^1/_4$ in. per foot, so there is no need to adjust the sleeve during installation.** Overflow slots are in place to divert excess water during severe weather. Locating holes in the side panels allow easy fastening of the sleeve to wall openings. An accessory drain kit is available, if needed. Refer to Drain Kit, page 15, for the part number.

This sleeve accommodates all Carrier accessory grilles.

Refer to the 52S unit installation instructions for complete sleeve and chassis installation procedures. Refer to dimension drawings (pages 21-26) for typical wall installation and unit dimensions.

When installing the Carrier wall sleeve, note the following:

- If more than 4 in. of sleeve projects into the room or the wall is less than 2 in. thick, an accessory subbase must be used for support. Refer to the description of the Accessory Subbase on page 16 for the part number.
- For all applications with an accessory subbase, wall sleeve must extend $3^1/_4$ in. minimum into room and must be $3^1/_4$ in. minimum to $5^1/_2$ in. maximum above floor (including carpeting). Refer to wall sleeve installation instructions for further information.
- The Carrier sleeve must be mounted so that it is level in all directions. See wall sleeve installation instructions for leveling procedure.
- The sleeve should be caulked on all sides, including both inside and outside the building.



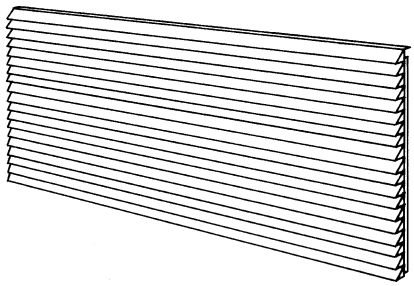
Corrosion-Protected Polymer Sleeve

ORDERING DATA (cont)

Aluminum Architectural Outdoor Grilles (Louvered)

Part No.: GRILLE-ALU-WHITE
Part No.: GRILLE-ALU-BRONZ
Part No.: GRILLE-ALU-BROWN
Part No.: GRILLE-ALU-BEIGE
Part No.: GRILLE-ALU-ALPINE (color matches Carrier wall sleeve)
Part No.: GRILLE-ALU-LTGREY
Part No.: GRILLE-ALU-CLEAR

This premium line of decorative outdoor grilles will enhance the appearance of any building. The grilles are made of strong, durable, extruded, anodized aluminum and are designed to be mounted easily from inside the room. These elegant grilles have baked enamel finishes available in several colors. See inside of back cover for standard colors. For more information on custom colors and sizes, contact Reliable Products at 1-800-624-3914.



Architectural Grille in Aluminum or Polymeric

Polymeric Architectural Outdoor Grilles (Louvered)

Part No.: GRILLE-PLA-BROWN
Part No.: GRILLE-PLA-BEIGE

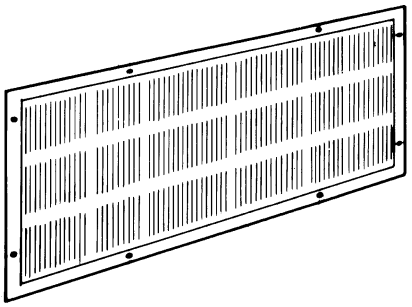
This value line of polymeric outdoor grilles will blend attractively with most building exteriors. Mounted easily from inside the room, the one-piece, molded grille is designed for protection, enhanced appearance, and superior weather-resistance. The grille is made of durable polymer and has a colorfast, lightly-textured finish that blends well with most exterior finishes.

Standard Outdoor Aluminum Grille

Part No.: GRILLE-ALU-STAMP

This cost-effective, one-piece standard grille is made from durable anodized aluminum. The grille is lightweight, has a clear finish, and is easy to install from inside the room.

IMPORTANT: If you wish to use a grille not made by Carrier for your Carrier unit(s), contact the Carrier Application Engineering Group at 1-800-894-6449.



Standard Grille

Sleeve Insulation Kit

Part No.: INSULATION-KIT

The accessory sleeve insulation kit prevents indoor condensation under low outdoor temperature conditions. In addition, this accessory reduces the transmission of outdoor noise into the room. The kit comes with pre-cut pieces of insulation and instructions for installation.

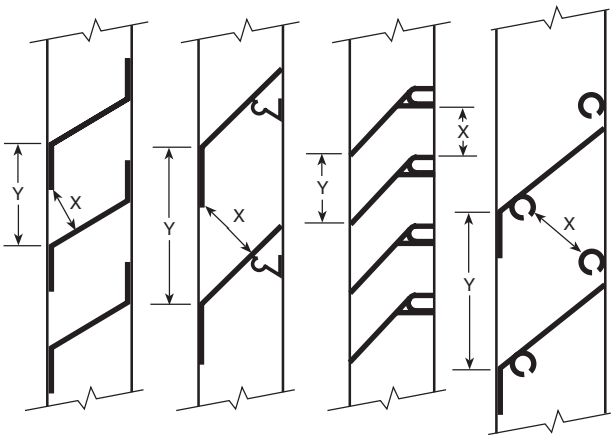
Outdoor Grille Selection

Carrier recommends only the use of Carrier-supplied grilles for use on the 52S series units. However, the architectural designs of a building may dictate the use of special or oversized grilles and/or louvers. Special louvers or any special architectural treatment of the building façade that may restrict free circulation of condenser airflow should be referred to Carrier Corporation for evaluation and approval.

The following guidelines must be followed in the initial selection of any proposed exterior grille or louver:

1. The louver must have a minimum of 65% free area. Free area is the minimum area of the opening in an air inlet or outlet in which air can pass. Free Area (%) = X/Y (see figure at right).
2. The louver should be attached to the wall sleeve in a manner that will prevent recirculation of condenser discharge air into the inlet. Baffles are necessary in most applications. If the louver is not attached to the wall sleeve, baffles, splitters, and/or gasket will be required between the chassis tube end sheets and the louver to prevent recirculation.

The above criteria must be followed, since a louver that is restrictive or allows recirculation will result in a reduction of the unit's capacity and efficiency and will ultimately shorten the compressor life.



Louver Dimensional Reference

Sample Calculations

$$\text{Free Area (\%)} = \frac{x}{y} \times 100$$

$x = 1''$

$y = 1.5''$

$$\text{F.A. (\%)} = \frac{1}{1.5} \times 100 = 66.7\%$$

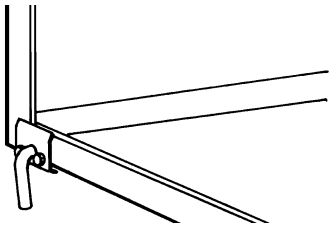
Drain Kit

Part No.: DRAIN-KIT-4PK

This universal drain kit may be used internally or externally to route condensate to a drainage system. It can be field-installed on the Carrier wall sleeve.

Although Carrier's units are designed to dissipate all the condensate generated during normal cooling, there may be times when abnormal conditions cause more condensate than the unit can dissipate. Heat pumps sometimes generate condensate that the unit may not be designed to handle. If condensate that drips from the wall case is objectionable, this internal/external drain kit should be installed.

The drain kit may be attached to the exterior right or left side of the wall sleeve for external draining or may be mounted to the room side of the wall sleeve for internal draining. See line art on page 24.

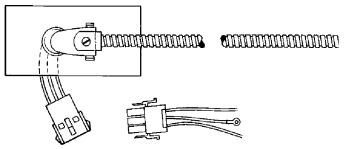


Drain Kit

Hard-Wire Kit

Part No.: H/W-KIT-230V
Part No.: H/W-KIT-230V-4PK
Part No.: H/W-KIT-265V
Part No.: H/W-KIT-265V-4PK

This accessory hard-wire kit provides a permanent connection to the unit. Electrical hard wiring is required when NEC (National Electrical Code) or local codes restrict the use of power cord and plug connections. The hard-wire kit mounts on the right side of the unit and comes with 36 inches of flexible steel conduit and a unit-mounted connector. The 230 volt kit comes with an additional plug assembly to use when replacing the 230-volt cord.



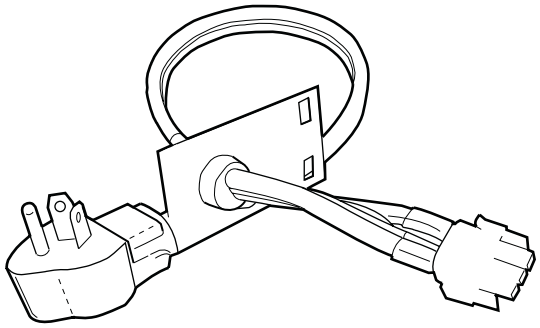
Hard-Wire Kit

ORDERING DATA (cont)

265-V Cord-Connection Kit

Part No.: PLUG-265V-15AMP
Part No.: PLUG-265V-20AMP
Part No.: PLUG-265V-30AMP

This 265-volt cord connection kit is an alternative to a 265-volt permanent hard-wire connection. The kit contains an 18-inch cord (UL 484 Requirement) and a unit-mounted plug connection. This field-installed accessory connects easily to the right side of the unit and plugs into a receptacle in a subbase. The subbase, described in this section, and a field-supplied receptacle are required if this cord-connection kit is used.



265-V Cord Kit

Subbase

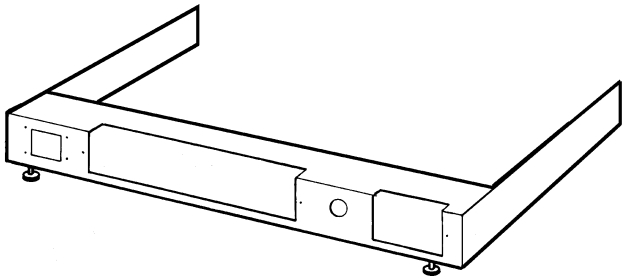
Part No.: SUB-BASE

This decorative subbase supports the unit and routes electrical wires. The subbase mounts to the wall sleeve and comes with adjustable legs and side skirting to provide a finished appearance.

A subbase is required for installations where the wall sleeve extends 4 or more inches into the room or the wall is less than 2 in. thick. The minimum clearance between the bottom of the sleeve and the floor is $3^1/_4$ in., and the maximum clearance is $5^1/_2$ inches. The subbase assembly comes with two leveling legs. See the wall sleeve installation information for leveling instructions.

The subbase is designed to accommodate various electrical configurations. Internal partitions and knockouts allow easy and flexible field-installation of electrical connections. The subbase supports both hard-wire and cord connections. Electrical receptacles must be field-supplied.

The subbase, along with a field-supplied receptacle, must be installed if the 265-v Cord-Connection Kit (Part Nos. PLUG-265V-15AMP, PLUG-265V-20AMP, or PLUG-265V-30AMP) is used. See this page for more information.

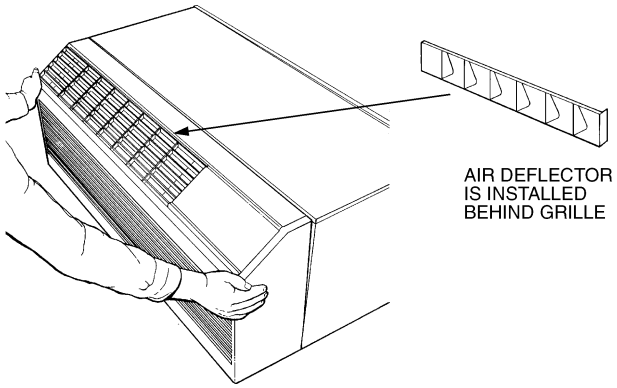


Subbase Assembly

Air Deflector

Part No.: DEFLECTOR-4PK

Carrier's exclusive lateral air deflector allows discharge air to be directed toward any location in a room. This field-installed accessory is equipped with independently adjustable louvers to enhance air circulation. Lateral air deflectors are recommended for units mounted in a corner or off-center in a room.



Accessory Air Deflector

Lateral Duct Kit

Part No.: LAT-DUCT-PLENUM (Adapter Plenum)
Part No.: EXTENSION-DUCT (Extension)

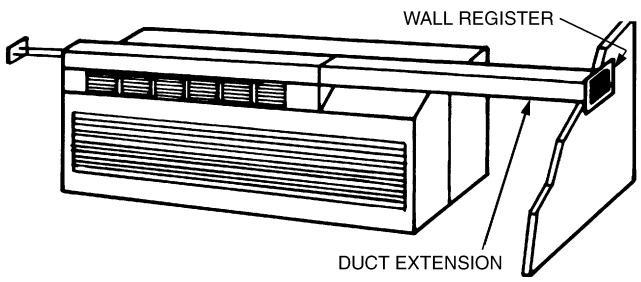
The accessory lateral duct kit allows one unit to heat or cool two rooms. The kit provides substantial savings for apartments, hotel suites, and office suites by eliminating the need for separate units for every room. The amount of air that can be diverted to an adjoining room is adjustable from 10 to 40 percent.

The lateral duct kit consists of two separate packages, the plenum and the extension duct. The kit mounts to the wall sleeve and allows either right or left side ducting. Consider the following when designing a ducted application.

1. The maximum extension of the duct length is 3 feet.
2. The duct run must be straight and horizontal; no bends or turns.
3. The minimum recommended clearance between the unit and the adjoining room wall is 6 inches.
4. You must provide for return air from the adjoining room.
5. Carrier 52S units are not qualified for use with any other ducting scheme.

See page 22 for more information.

NOTE: Lateral Duct Kit includes wall register for external duct.

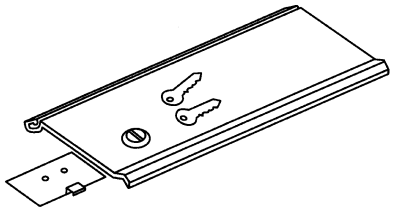


Lateral Duct Kit

Security Door Kit

Part No.: SECURITY-DOOR

This key-locking security door kit prevents unauthorized access to the unit's heating and cooling controls and prevents tampering with units in public locations and institutions. This field-installed accessory includes two matching keys and fits all Carrier 52S models. Keys are common to all Security Door kits.

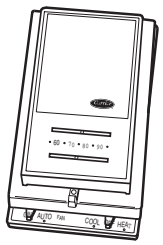


Security Door Kit

Manual Changeover Wall Thermostat

Part No.: HH01AD045

This manual changeover wall thermostat provides a reliable and consistent level of occupant temperature control for both heat pumps and heating/cooling units. The thermostat consists of a conventional vented cover and a coiled bimetal element. It is used only on wall thermostat control (RC) models.



Manual Thermostat

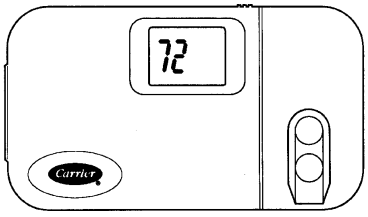
ORDERING DATA (cont)

Programmable Thermostat

Part No.: TSTATCCPAC01-B (for heat/cool models)
Part No.: TSTATCCPHP01-B (for heat pump models)

This microcomputer-controlled, programmable wall thermostat has enhanced features that provide automatic changeover control for both heat pumps and heating/ cooling units. It is used only on wall thermostat control (RC) models.

NOTE: Be sure to connect reversing valve wiring to the B connection of the thermostat for heat pump applications.

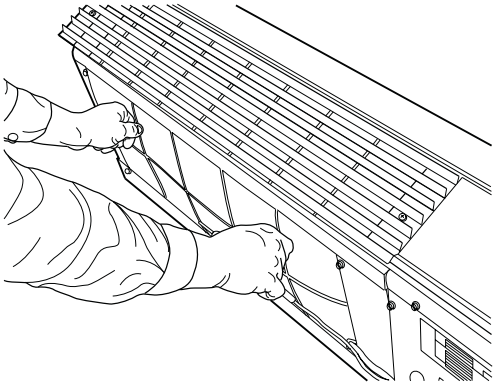


Programmable Thermostat

Replacement Filters

Part No.: AIR-FILTER-25PK

The Carrier 52S model replacement air filters come in packages of 25. The filters save energy by preventing the evaporator coils from being plugged with dirt and lint. These economical and sturdy mesh filters may be washed, vacuumed, and reused. Carrier's filters meet original equipment specifications and are factory-authorized replacement parts.



Easily Replaceable Filters

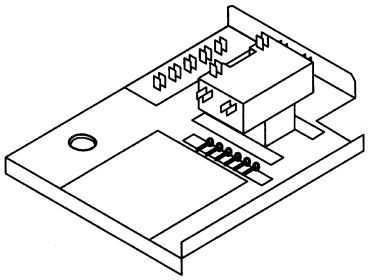
Energy Management Kit

Part No.: EM-KIT

This field-installed accessory kit allows individual units to be turned on and off from a remote location. When installed at a hotel front desk, the kit can help to conserve energy by allowing hotel staff to easily turn off units when rooms are not occupied.

The kit incorporates Carrier's Freeze Guard protection that prevents rooms from freezing during extreme or extended cold periods. Under these conditions, the Freeze Guard automatically disables front desk control and allows the unit to maintain a temperature of at least 50 F in the room. When the room reaches 65 F, the Freeze Guard feature returns the unit control to the front desk.

This kit interfaces to most energy management systems. When installed in locations other than the front desk, the kit can control unit operation by receiving signals from field-supplied devices such as motion sensors or heat sensing detectors.



Energy Management Kit

Control devices connected to the Energy Management Kit must have normally open sets of contacts (when the switch is open, the unit operates). A 24-volt transformer must be field supplied and connected to the Energy Management Kit. (See typical wiring diagram on page 40.)

Accessory Retrofit Kit for GE Sleeve

Part No.: GE-RETROFIT-KIT

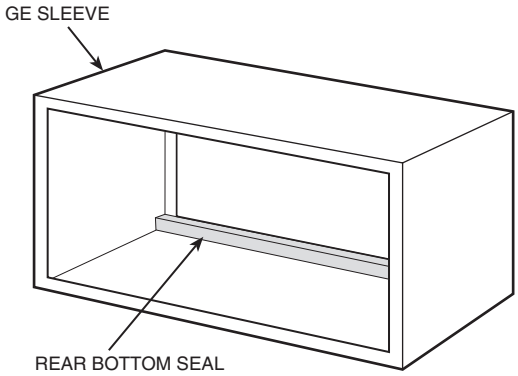
This kit contains the items that allow owners to install a 52S chassis into a plastic or metal GE sleeve so that there is no air leakage or damage to 52S unit components. The Retrofit Kit is an accessory and must be ordered separately from the factory.

To retrofit to a plastic GE sleeve, it is important to remove the rear bottom seal from the sleeve. To retrofit to a metal GE sleeve, a metal rail extension bracket must be mounted to the bottom of the sleeve.

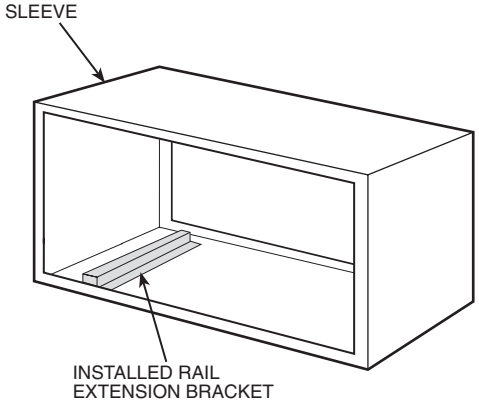
Both metal and plastic sleeves require placing two foam baffles (provided in the Retrofit Kit) on the outdoor condenser coil. These baffles must be installed to prevent air recirculation.

Refer to the installation instructions for complete installation procedures.

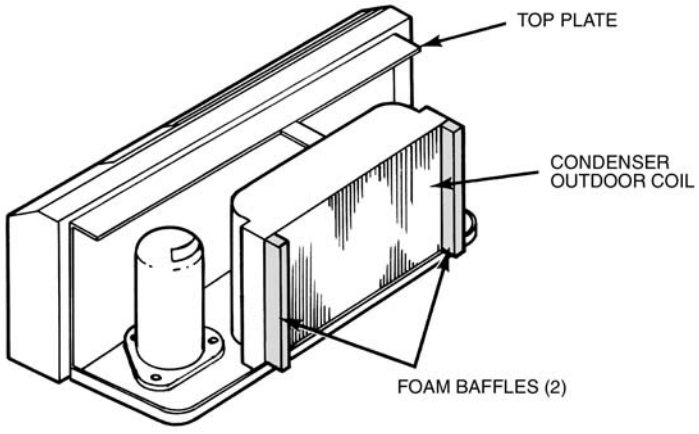
IMPORTANT: The foam baffles must make a good seal between the grille and outdoor coil. Improper installation of the foam baffles or neglecting to install them can result in condenser (outdoor) air recirculation. This will degrade the unit's performance and shorten product life. Do not ignore this step. *Carrier does not assume responsibility for costs or damages resulting from misapplication of foam baffles.*



Location of Foam Seal to be Removed from GE Plastic Sleeve



Installation of Rail Extension Bracket



Placement of Foam Baffles on Outdoor Coil Tube Sheets

ORDERING DATA (cont)

Accessory Retrofit Kit For Amana/Trane Sleeve

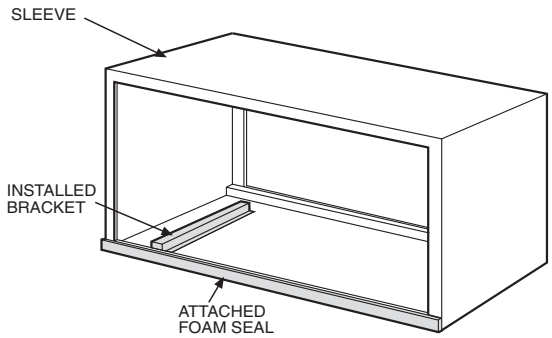
Part No.: AM-RETROFIT-KIT

This kit contains the items that allow owners to install a 52S chassis into an Amana or Trane sleeve so that there is no air leakage or damage to 52S unit components. The kit includes a bracket, foam baffles, screws, side angles, a foam seal, and foam gaskets. The retrofit kit is an accessory and must be ordered separately from the factory.

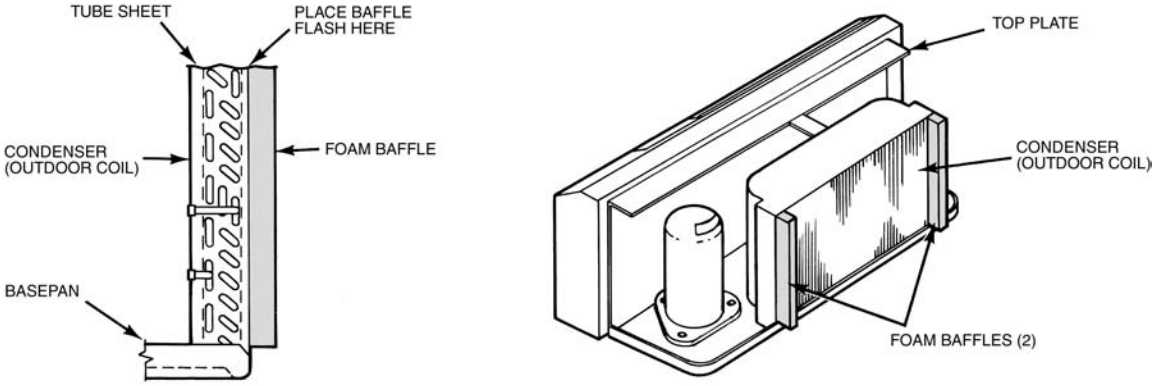
The installation requires adding a bracket to the wall sleeve to ensure that the chassis will be level when it is placed in the metal sleeve. Attach foam seal to front of sleeve. Two foam baffles (provided in the Retrofit Kit) are placed on the outdoor condenser coil tube sheets, one baffle on each tube sheet. These baffles must be installed to prevent air recirculation. Foam gaskets added to the basepan prevent water leakage.

Refer to the installation instructions for complete installation procedures.

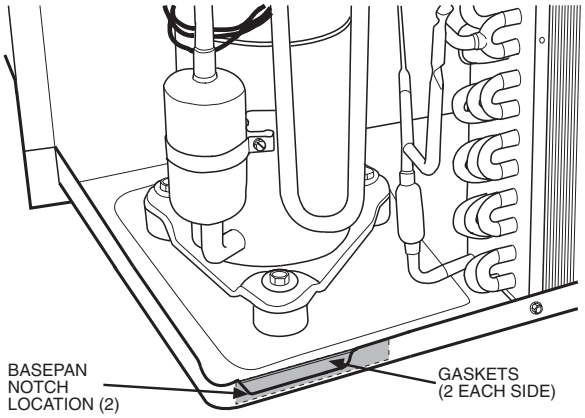
IMPORTANT: Be sure that the foam baffles make a good seal between the grille and outdoor coil tube sheets. Improper installation of the foam baffles or neglecting to install them can result in condenser (outdoor) air recirculation. This will degrade the unit's performance and shorten product life. Do not ignore this step. *Carrier does not assume responsibility for costs or damages resulting from misapplication of foam baffles.*



Bracket Attached to Amana/Trane Metal Sleeve



Foam Baffles Attached on Outdoor Coil Tube Sheets



Gaskets Installed onto Basepan

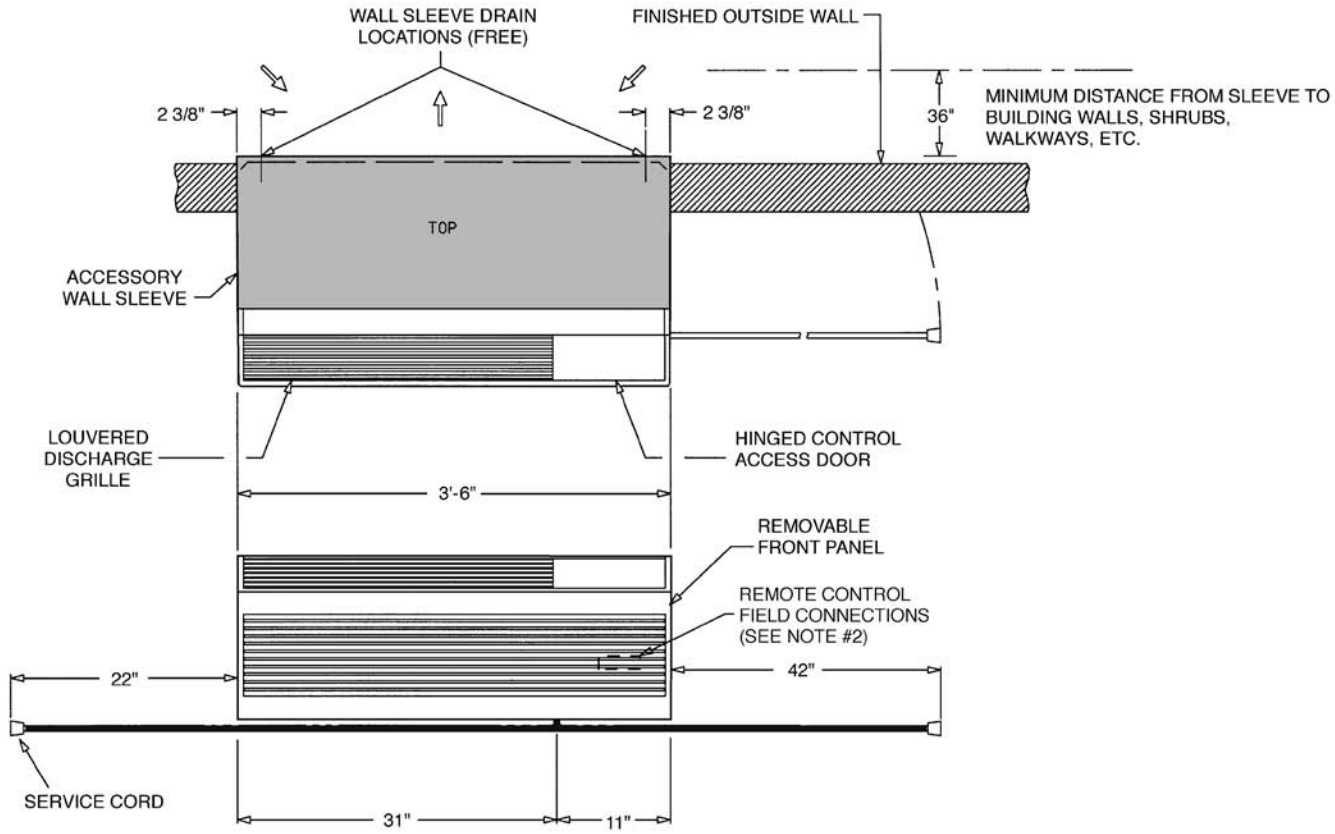
DIMENSION DRAWINGS AND INSTALLATION DATA — NEW CONSTRUCTION

TYPICAL WALL INSTALLATION

Proper building practices must be used when constructing a wall opening to support a PTAC wall sleeve and chassis.

If practices are unknown, consult your local architect or building contractor.

Installed wall sleeve must be level from side to side and front to back.



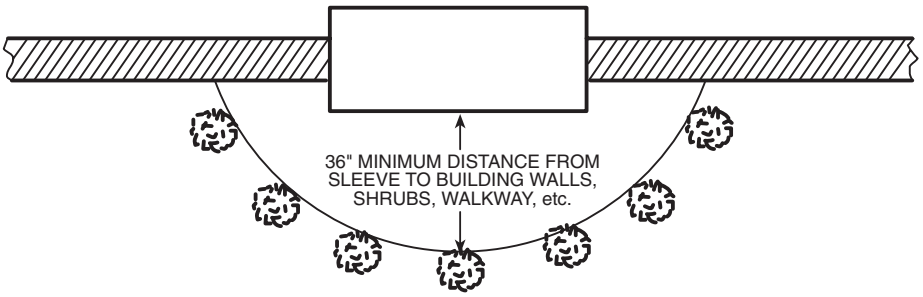
NOTES:

1. Sleeve can be flush mounted to floor, but front panel may have to be notched to accommodate service cord (except when subbase is used).
2. Wall thermostat control models (52S series "RC'' units) use low voltage connections (24 volt) qualified with a manual changeover thermostat.

52S Dimension Drawing

DIMENSION DRAWINGS AND INSTALLATION DATA — NEW CONSTRUCTION (cont)

MINIMUM CLEARANCE FOR OUTDOOR DISCHARGE AIR

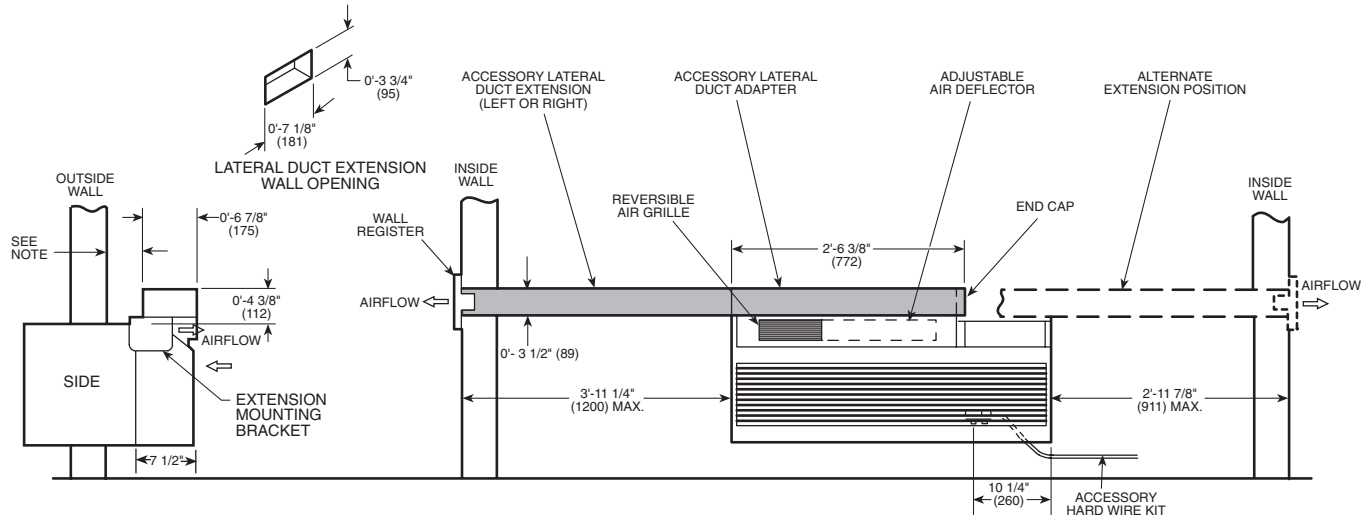


52S Outdoor Discharge Air Circulation

⚠ WARNING

Blocking outdoor discharge air could cause premature failure of unit.

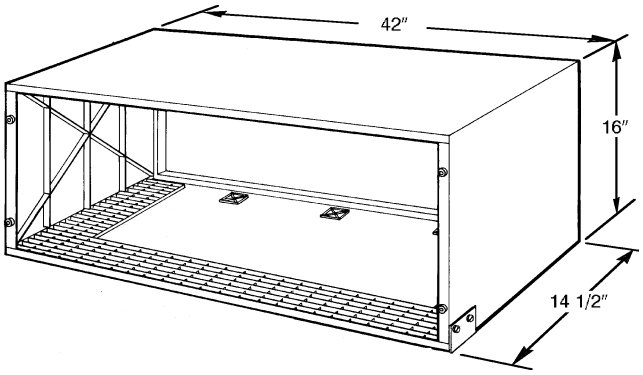
TYPICAL LATERAL DUCT INSTALLATION



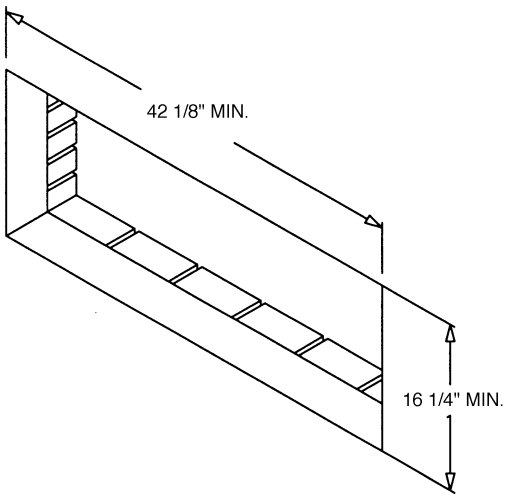
NOTE: For all applications with an accessory lateral duct, sleeve must extend into the room a minimum of one inch.

52S Lateral Duct

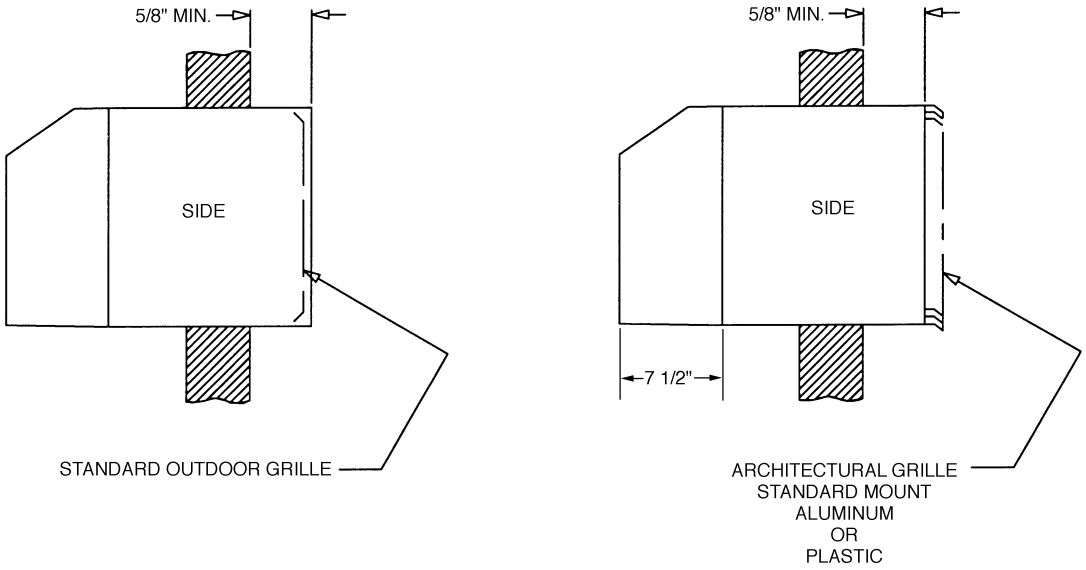
WALL SLEEVE MOUNTING DIMENSIONS FOR STANDARD AND ACCESSORY GRILLES



Wall Sleeve



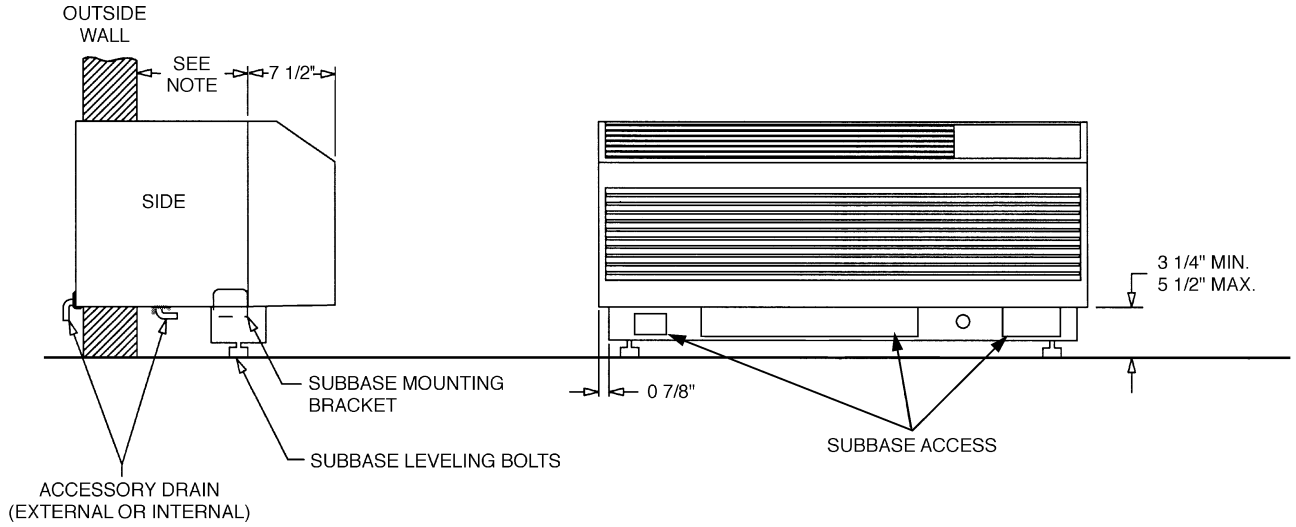
Minimum Wall Sleeve Opening

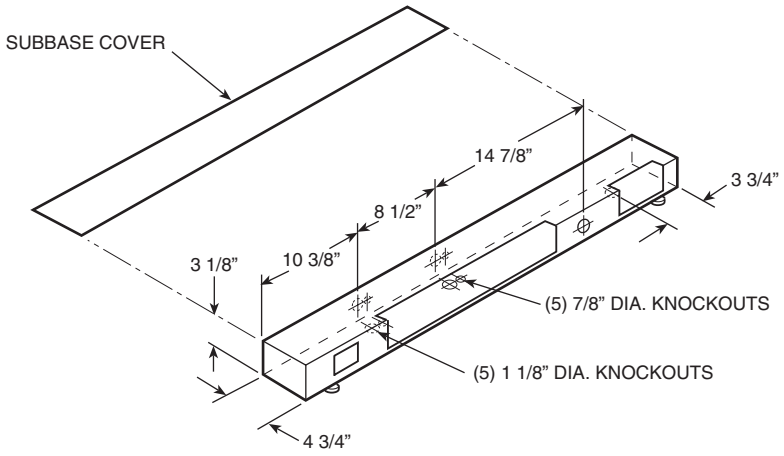


Wall Sleeve Mounting

DIMENSION DRAWINGS AND INSTALLATION DATA — NEW CONSTRUCTION (cont)

52S WITH SUBBASE



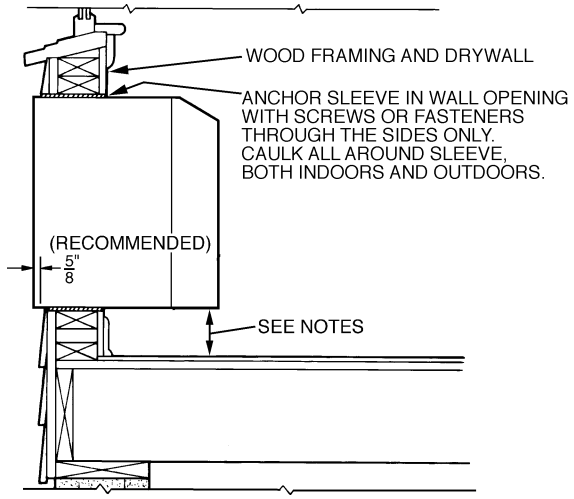


NOTES:
1. For all applications with an accessory subbase:
   - Wall sleeve must extend 4 in. minimum into the room and $3^1/_4$ in. minimum above the floor.
   - Subbase height is adjustable from $3^1/_4$ in. minimum to $5^1/_2$ in. maximum above floor (including carpeting).

   Refer to wall sleeve installation instructions.
2. Accessory subbase is required for applications where:
   - Wall sleeve extends 4 or more inches into the room.
   - Wall thickness is less than 2 inches.

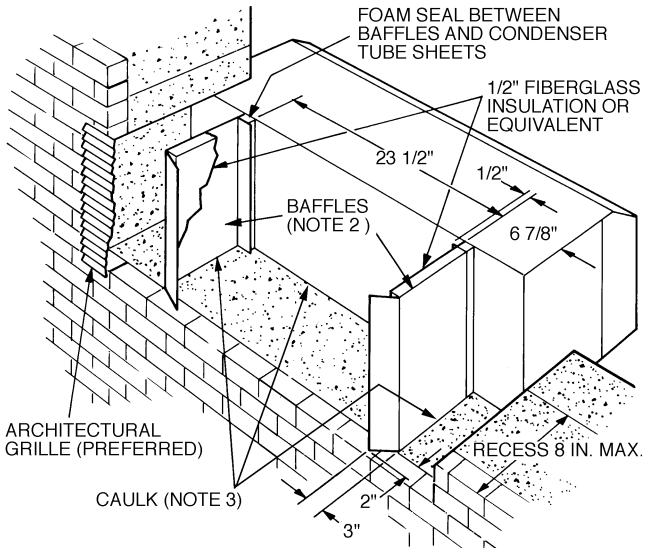
Accessory Subbase Electrical Connections

TYPICAL WALL AND DEEP WALL INSTALLATION


WOOD FRAMING AND DRYWALL
ANCHOR SLEEVE IN WALL OPENING WITH SCREWS OR FASTENERS THROUGH THE SIDES ONLY. CAULK ALL AROUND SLEEVE, BOTH INDOORS AND OUTDOORS.
(RECOMMENDED)
5/8"
SEE NOTES

NOTES:
1. Sleeve may be flush mounted to floor, but front panel may have to be notched to accommodate service cord.
2. If more than 4 in. of sleeve projects into room, an accessory subbase must be used for support.
3. For walls 2 in. thick or less, an accessory subbase must be used for support.

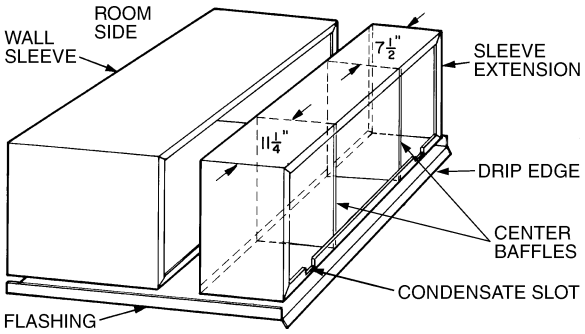
Typical Wall Installation



NOTES:
1. To permit outdoor grille to be attached to and supported by unit sleeve, fabricate a sleeve extension so unit sleeve and baffles can reach outdoor grille. Be sure to provide flashing for proper condenser runoff to avoid water damage to room interior. Internal or external drain system may be required.
2. Baffles may be part of the sleeve extension or fixed directly to condenser coil tube sheets.
3. Caulk all joints between sleeve or baffles and opening in wall.
4. If grille is used on outdoor wall opening, *do not* install an additional outdoor grille on unit sleeve.

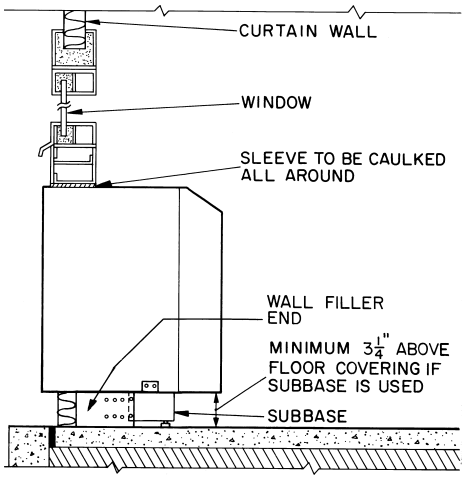
Typical Deep Wall Installation

DIMENSION DRAWINGS AND INSTALLATION DATA — NEW CONSTRUCTION (cont)



NOTES:
1. Unit sleeve and sleeve extension (field fabricated) should be connected before installing in wall opening.
2. Sleeve extension is water bearing. It must be watertight when installed against unit sleeve. Use quality grade sealant on all butting flanges. Attach both sections with bolts and nuts or self-tapping screws installed from unit sleeve to extension. Cut drain slots in front and rear flanges of extension to line up with drain openings in unit sleeve.
3. Install 2 center baffles inside sleeve extension to prevent recirculation of outdoor air circuit. These baffles should make a tight seal between the outdoor coil and the outdoor grille.
4. Leave 3/8-in. roomside projection of extension and 1/4-in. outdoor projection of sleeve. This allows for unit casing clearance to finished wall plus ample edging to apply weather sealant between unit sleeve/extension assembly and wall opening.
5. Paint sleeve extension and seal corner and lap joints; clear all drain holes of excess sealant, paint, etc., to permit free drainage.
6. Install quality flashing under unit sleeve and extension using quality sealant between flashing and wall.
7. Install unit casing/extension assembly following standard practices. Seal assembly to wall on all 4 sides, indoors and outdoors.
8. Make provision for a condensate drain extension tube for routing excess condensate from the wall sleeve through the sleeve extension to the building exterior.
9. Attach grille to the outside of the sleeve extension (using field-supplied fasteners).
10. Seal any gaps between grille and sleeve extension on all sides.

Wall Sleeve and Sleeve Extension (All Models; Field Fabricated)



Typical Curtain Wall Installation (All Models)

PERFORMANCE AND ELECTRICAL DATA

MODEL 52SQ (230/208 V)

MODEL NUMBER	CAPACITY* (Btuh)			HEATER kW	EER	COP†	VOLTAGE RANGE (Volts)	AMPS		WATTS	
	Cooling	Heating						Cooling	Heating**	Cooling	Heating
		Rev. Cyc.	Electric								
52SQD207---3	7,100/ 6,900	6,100/ 6,000	7,800/ 6,400	2.3	10.5/10.5	3.1/3.1	253-198	2.9/3.1	10.6/ 9.6	675/ 655	2440/2040
52SQD307---3	7,100/ 6,900	6,100/ 6,000	11,600/ 9,500	3.4	10.5/10.5	3.1/3.1		2.9/3.1	15.4/14.2	675/ 655	3540/2990
52SQE209---3	9,000/ 8,800	8,000/ 7,800	7,800/ 6,400	2.3	9.3/ 9.3	2.8/2.8	253-187	4.4/4.6	10.9/ 9.8	968/ 946	2510/2070
52SQE309---3	9,000/ 8,800	8,000/ 7,800	11,600/ 9,500	3.4	9.3/ 9.3	2.8/2.8		4.4/4.6	15.7/14.4	968/ 946	3610/3020
52SQC212---3	12,000/11,800	10,700/10,600	7,800/ 6,400	2.3	9.0/ 9.0	2.8/2.8	253-198	5.8/6.2	11.0/ 9.9	1333/1311	2500/2075
52SQC312---3	12,000/11,800	10,700/10,600	11,600/ 9,500	3.4	9.0/ 9.0	2.8/2.8		5.8/6.2	15.8/14.5	1333/1311	3600/3025
52SQC512---3	12,000/11,800	10,700/10,600	16,900/13,600	5.0	9.0/ 9.0	2.8/2.8		5.8/6.2	22.7/20.0	1333/1311	5200/4175
52SQC214---3	13,500/13,200	11,000/11,000	7,800/ 6,400	2.3	8.8/ 8.8	2.6/2.6	253-187	6.9/7.4	10.9/ 9.8	1530/1500	2510/2070
52SQC314---3	13,500/13,200	11,000/11,000	11,600/ 9,500	3.4	8.8/ 8.8	2.6/2.6		6.9/7.4	15.7/14.4	1530/1500	3610/3020
52SQC514---3	13,500/13,200	11,000/11,000	16,900/13,600	5.0	8.8/ 8.8	2.6/2.6		6.9/7.4	22.6/19.9	1530/1500	5210/4170

MODEL NUMBER	POWER FACTOR (%)	FAN MOTOR			MAX FUSE SIZE (Amp)	MIN. CIRCUIT (Amp)	RECEP-TACLE TYPE	R-22 CHARGE (oz)	DEHUMIDIFI-CATION (Pints/Hr)	APPROX. SHIP WT. (lb)
		Horsepower	Full Load Amps	Indoor CFM HI/LO						
52SQD207---3	97	1/15	0.6	280/200	15	13.1	A	24	1.3	125
52SQD307---3					20	19.1	B			
52SQE209---3	95	1/8	0.78	350/300	15	13.4	A	26	2.3	128
52SQE309---3					20	19.4	B			
52SQC212---3	98	1/6	1.0	380/310	15	12.3	A	34	3.3	129
52SQC312---3					20	18.0	B			
52SQC512---3					30	24.9	C			
52SQC214---3	98	1/8	0.78	350/300	15	13.4	A	37	4.3	130
52SQC314---3					20	19.4	B			
52SQC514---3					30	28.0	C			

LEGEND

EER — Energy Efficiency Ratio

*Rated in accordance with ARI Standard 310/380-93.
†Coefficient of Performance (COP) at 47 F outdoor ambient temperature.
**Electric resistance heater power and fan motor power.

RECEPTACLES AND FUSE TYPES

UNIT NAMEPLATE VOLTAGE	230/208		
OUTLET RATED VOLTS/AMPS	250/15	250/20	250/30
OUTLET BLADE CONFIGURATION	A	B	C
FEMALE RECEPTACLE MANUFACTURER'S PART NO.			
Hubbell	5661	5461	9330
P&S	5661	5871	5930
GE	GE4069-1	GE4182-1	GE4139-3
Arrow-Hart	5661	5861	5700
NEMA CONFIGURATION	6-15R	6-20R	6-30R
TIME DELAY FUSE OR HACR CIRCUIT BREAKER (AMPS)	15	20*	30
HEATER (KILOWATTS)	2.3	3.4	5.0

LEGEND

HACR — Heating, Air Conditioning, and Refrigeration
NEMA — National Electrical Manufacturers Association

*May be used for 15-amp applications if fused for 15 amps.

PRODUCT DATA (cont)

PERFORMANCE AND ELECTRICAL DATA

MODEL 52SQ (265 V)

MODEL NUMBER	CAPACITY* (Btuh)			HEATER kW	EER	COP†	VOLT RANGE	AMPS		WATTS	
	Cooling	Heating						Cooling	Heating**	Cooling	Heating
		Rev. Cycle	Electric								
52SQD207---4	7,100	6,000	7,800	2.3	10.5	2.9	292-239	2.9	9.3	675	2435
52SQD307---4	7,100	6,000	11,600	3.4	10.5	2.9		2.9	13.4	675	3535
52SQE209---4	9,000	8,000	7,800	2.3	9.3	2.8		3.8	9.4	968	2435
52SQE309---4	9,000	8,000	11,600	3.4	9.3	2.8		3.8	13.5	968	3535
52SQC212---4	12,000	11,000	7,800	2.3	9.0	2.8		5.2	9.5	1333	2508
52SQC312---4	12,000	11,000	11,600	3.4	9.0	2.8		5.2	13.6	1333	3608
52SQC512---4	12,000	11,000	17,000	5.0	9.0	2.8		5.2	19.7	1333	5208
52SQC214---4	13,500	11,000	7,800	2.3	8.8	2.7		5.9	9.5	1535	2505
52SQC314---4	13,500	11,000	11,600	3.4	8.8	2.7		5.9	13.6	1535	3605
52SQC514---4	13,500	11,000	17,000	5.0	8.8	2.7		5.9	19.7	1535	5205

MODEL NUMBER	POWER FACTOR %	FAN MOTOR			MAX. FUSE SIZE (Amps)	MIN. CIRCUIT AMPS	RECEP-TACLE TYPE††	R-22 CHARGE (oz)	DEHUMIDI-FICATION (Pints/Hr)	APPROX. CHASSIS SHIP WT (lb)
		Horsepower	Full Load Amps	Indoor CFM HI/LO						
52SQD207---4	97	1/15	0.56	280/200	15	11.6	A	26	3.00	125
52SQD307---4					20	16.8	B			
52SQE209---4	98	1/8	0.7	350/300	15	11.6	A	26	2.33	128
52SQE309---4					20	16.8	B			
52SQC212---4	98	1/6	0.8	380/310	15	11.8	A	34	3.40	129
52SQC312---4					20	16.9	B			
52SQC512---4					25	24.5	C			
52SQC214---4	98	1/8	0.7	350/300	15	11.7	A	37	4.20	130
52SQC314---4					20	16.8	B			
52SQC514---4					25	24.5	C			

LEGEND

EER — Energy Efficiency Ratio

*Rated in accordance with ARI Standard 310/380-93.

†Coefficient of Performance (COP) at 47 F outdoor ambient temperature.

**Electric resistance heater power and fan motor power.

††All 265-v units require either the Accessory Hard-Wire Kit or the Accessory Cord-Connected Kit for installation. Use of the Accessory Cord-Connected Kit requires the installation of the Subbase along with a field-supplied receptacle. Receptacle configurations of the Accessory Cord-Connected Kit are shown at right.

RECEPTACLES AND FUSE TYPES

UNIT NAMEPLATE VOLTAGE	265		
OUTLET RATED VOLTS/AMPS	277/15	277/20	277/30
OUTLET BLADE CONFIGURATION	A	B	C
FEMALE RECEPTACLE MANUFACTURER'S PART NO. Arrow-Hart Hubbell Eagle	 5302 — 834B-BOX	 7621 — 384B-BOX	 5795N 9315 —
NEMA CONFIGURATION	7-15R	7-20R	7-30R
TIME DELAY FUSE OR HACR CIRCUIT BREAKER (AMPS)	15	20	30
HEATER (KILOWATTS)	2.3	3.4	5.0

LEGEND

HACR — Heating, Air Conditioning, and Refrigeration
NEMA — National Electrical Manufacturers Association

PERFORMANCE AND ELECTRICAL DATA

MODEL 52SE (230/208 V)

MODEL NUMBER	CAPACITY* (Btuh)		EER	HEATER kW	VOLTAGE RANGE	AMPS		WATTS	
	Cooling	Heating				Cooling	Heating†	Cooling	Heating
52SEE207---3	7,100/ 7,000	7,800/ 6,400	11.0/11.1	2.3	253-198	2.8/3.0	10.6/ 9.6	645/ 628	2440/2040
52SEE307---3	7,100/ 7,000	11,600/ 9,500	11.0/11.1	3.4		2.8/3.0	15.4/14.2	645/ 628	3540/2990
52SEE209---3	9,100/ 9,100	7,800/ 6,400	9.3/ 9.3	2.3	253-187	4.4/4.6	10.8/ 9.9	979/ 979	2440/2025
52SEE309---3	9,100/ 9,100	11,600/ 9,500	9.3/ 9.3	3.4		4.4/4.6	15.6/14.5	979/ 979	3540/2975
52SEC212---3	11,800/11,600	7,800/ 6,400	9.0/ 9.0	2.3		5.9/6.3	11.0/ 9.9	1310/1288	2500/2075
52SEC312---3	11,800/11,600	11,600/ 9,500	9.0/ 9.0	3.4		5.9/6.3	15.8/14.5	1310/1288	3600/3025
52SEC512---3	11,800/11,600	16,900/13,600	9.0/ 9.0	5.0		5.9/6.3	22.7/20.0	1310/1288	5200/4175
52SEC214---3	13,500/13,200	7,800/ 6,400	8.8/ 8.8	2.3		6.8/7.3	10.9/ 9.8	1530/1500	2510/2070
52SEC314---3	13,500/13,200	11,600/ 9,500	8.8/ 8.8	3.4		6.8/7.3	15.7/14.4	1530/1500	3610/3020
52SEC514---3	13,500/13,200	16,900/13,600	8.8/ 8.8	5.0		6.8/7.3	22.6/19.9	1530/1500	5210/4170

MODEL NUMBER	POWER FACTOR (%)	FAN MOTOR			MAX. FUSE SIZE (Amps)	MIN. CIRCUIT (Amps)	RECEP-TACLE TYPE	R-22 CHARGE (oz)	DEHUMIDIFI-CATION (Pints/Hr)	APPROX. SHIP WT. (lb)
		Horsepower	Full Load Amps	Indoor CFM HI/LO						
52SEE207---3	97	1/15	0.6	280/200	15	13.1	A	23	1.3	128
52SEE307---3					20	19.1	B			
52SEE209---3	97	1/8	0.78	350/300	15	13.3	A	27	2.1	120
52SEE309---3					20	19.3	B			
52SEC212---3	98	1/6	1.0	380/310	15	13.5	A	36	3.5	129
52SEC312---3					20	19.5	B			
52SEC512---3					30	27.6	C			
52SEC214---3	98	1/8	0.78	350/300	15	13.5	A	35	4.7	129
52SEC314---3					20	19.5	B			
52SEC514---3					30	27.6	C			

LEGEND

EER — Energy Efficiency Ratio

*Rated in accordance with ARI Standard 310/380-93.
†Electric resistance heater power and fan motor power.

RECEPTACLES AND FUSE TYPES

UNIT NAMEPLATE VOLTAGE	230/208		
OUTLET RATED VOLTS/AMPS	250/15	250/20	250/30
OUTLET BLADE CONFIGURATION	A	B	C
FEMALE RECEPTACLE MANUFACTURER'S PART NO.			
Hubbell	5661	5461	9330
P&S	5661	5871	5930
GE	GE4069-1	GE4182-1	GE4139-3
Arrow-Hart	5661	5861	5700
NEMA CONFIGURATION	6-15R	6-20R	6-30R
TIME DELAY FUSE OR HACR CIRCUIT BREAKER (AMPS)	15	20*	30
HEATER (KILOWATTS)	2.3	3.4	5.0

LEGEND

HACR — Heating, Air Conditioning, and Refrigeration
NEMA — National Electrical Manufacturers Association

*May be used for 15-amp applications if fused for 15 amps.

PRODUCT DATA (cont)

PERFORMANCE AND ELECTRICAL DATA

MODEL 52SE (265 V)

MODEL NUMBER	CAPACITY* (Btuh)		EER	HEATER kW	VOLT RANGE	COOLING (Amps)	HEATING† (Amps)	COOLING (Watts)	HEATING (Watts)
	Cooling	Heating							
52SED207---4	7,100	7,800	11.0	2.3	292-239	2.7	9.3	645	2435
52SED307---4	7,100	11,600	11.0	3.4		2.7	13.4	645	3535
52SEE209---4	9,100	7,800	9.5	2.3		3.8	9.4	958	2435
52SEE309---4	9,100	11,600	9.5	3.4		3.8	13.5	958	3535
52SEC212---4	12,000	7,800	9.2	2.3		5.2	9.5	1304	2508
52SEC312---4	12,000	11,600	9.2	3.4		5.2	13.6	1304	3608
52SEC512---4	12,000	17,000	9.2	5.0		5.2	19.7	1304	5208
52SEC214---4	13,700	7,800	9.0	2.3		5.9	9.5	1522	2505
52SEC314---4	13,700	11,600	9.0	3.4		5.9	13.6	1522	3605
52SEC514---4	13,700	17,000	9.0	5.0		5.9	19.7	1522	5205

MODEL NUMBER	POWER FACTOR %	FAN MOTOR			MAX. FUSE SIZE (Amps)	MIN. CIRCUIT AMPS	RECEP-TACLE TYPE**	R-22 CHARGE (oz)	DEHUMIDIFICA-TION (Pints/Hr)	APPROX. CHASSIS SHIP WT (lb)
		Hp	Full Load Amps	Indoor CFM HI/LO						
52SED207---4	94	1/15	0.56	280/200	15	11.5	A	23	1.3	125
52SED307---4					20	16.6	B			
52SEE209---4	95	1/8	0.7	350/300	15	11.6	A	27	2.1	120
52SEE309---4					20	16.7	B			
52SEC212---4	99	1/6	0.8	380/310	15	11.7	A	36	3.4	129
52SEC312---4					20	16.8	B			
52SEC512---4					25	24.8	C			
52SEC214---4	98	1/8	0.7	350/300	15	11.7	A	35	4.7	130
52SEC314---4					20	16.8	B			
52SEC514---4					25	24.4	C			

LEGEND

EER — Energy Efficiency Ratio

*Rated in accordance with ARI Standard 310/380-93.

†Electric resistance heater power and fan motor power.

**All 265-v units require either the Accessory Hard-Wire Kit or the Accessory Cord-Connected Kit for installation. Use of the Accessory Cord-Connected Kit requires the installation of the Subbase along with a field-supplied receptacle. Receptacle configurations of the Accessory Cord-Connected Kit are shown at right.

RECEPTACLES AND FUSE TYPES

UNIT NAMEPLATE VOLTAGE	265		
OUTLET RATED VOLTS/AMPS	277/15	277/20	277/30
OUTLET BLADE CONFIGURATION	A	B	C
FEMALE RECEPTACLE MANUFACTURER'S PART NO. Arrow-Hart Hubbell Eagle	 5302 — 834B-BOX	 7621 — 834B-BOX	 5795N 9315 —
NEMA CONFIGURATION	7-15R	7-20R	7-30R
TIME DELAY FUSE OR HACR CIRCUIT BREAKER (AMPS)	15	20	30
HEATER (KILOWATTS)	2.3	3.4	5.0

LEGEND

HACR — Heating, Air Conditioning, and Refrigeration
NEMA — National Electrical Manufacturers Association

PERFORMANCE AND ELECTRICAL DATA

MODEL 52SC (230/208 V)

MODEL NO.	COOLING CAPACITY* (Btuh)	EER	VOLT RANGE	AMPS COOLING	WATTS COOLING	POWER FACTOR %
52SCD007---3	7,100/ 7,000	11.0/11.1	253-198	2.8/3.0	645/ 628	97
52SCE009---3	9,100/ 9,100	9.3/ 9.3	253-187	4.4/4.6	979/ 979	97
52SCD012---3	11,800/11,600	9.0/ 9.0		5.9/6.3	1,310/1,288	98
52SCC014---3	13,500/13,200	8.8/ 8.8	253-198	6.8/7.3	1,530/1,500	98

MODEL NO.	FAN MOTOR		
	Horsepower	Full Load Amps	Indoor CFM HI/LO
52SCD007---3	1/15	0.6	280/200
52SCE009---3	1/8	0.78	350/300
52SCC012---3	1/6	1.0	380/310
52SCC014---3	1/8	0.78	350/300

MODEL NO.	MAX. FUSE SIZE (AMPS)	MIN. CIRCUIT AMPS	RECEPTACLE TYPE	R-22 CHARGE (oz)	DEHUMIDIFICATION (Pints/Hr)	APPROX. CHASSIS SHIP WT. (lb)
52SCD007---3	15	5.0	A	23	1.3	125
52SCE009---3		6.7		27	2.1	120
52SCD012---3		7.4		36	3.3	129
52SCC014---3		10.5		35	4.3	130

LEGEND

EER — Energy Efficiency Ratio

*Rated in accordance with ARI Standard 310/380-93.

RECEPTACLES AND FUSE TYPES

UNIT NAMEPLATE VOLTAGE	230/208		
OUTLET RATED VOLTS/AMPS	250/15	250/20	250/30
OUTLET BLADE CONFIGURATION	A	B	C
FEMALE RECEPTACLE MANUFACTURER'S PART NO.			
Hubbell	5661	5461	9330
P&S	5661	5871	5930
GE	GE4069-1	GE4182-1	GE4139-3
Arrow-Hart	5661	5861	5700
TIME DELAY FUSE OR HACR CIRCUIT BREAKER (AMPS)	15	20*	30

LEGEND

HACR — Heating, Air Conditioning, and Refrigeration

*May be used for 15-amp applications if fused for 15 amps.

PRODUCT DATA (cont)

PERFORMANCE AND ELECTRICAL DATA

MODEL 52SC (265 V)

MODEL NO.	COOLING CAPACITY* (Btuh)	EER	VOLT RANGE	AMPS COOLING	WATTS COOLING	POWER FACTOR %
52SCD007---4	7,100	11.0	292-239	2.7	645	94
52SCE009---4	9,100	9.5		3.8	958	95
52SCD012---4	12,000	9.2		5.2	1,304	99
52SCC014---4	13,700	9.0		5.9	1,522	98

MODEL NO.	FAN MOTOR		
	Horsepower	Full Load Amps	Indoor CFM HI/LO
52SCD007---4	1/15	0.56	280/200
52SCE009---4	1/8	0.7	350/300
52SCC012---4	1/6	0.8	380/310
52SCC014---4	1/8	0.7	350/250

MODEL NO.	MAX. FUSE SIZE (AMPS)	MIN. CIRCUIT AMPS	RECEPTACLE TYPE†	R-22 CHARGE (oz)	DEHUMIDIFICATION (Pints/Hr)	APPROX. CHASSIS SHIP WT. (lb)
52SCD007---4	15	4.0	A	23	3.0	125
52SCE009---4		5.6		27	2.1	120
52SCD012---4		6.5		36	3.4	129
52SCC014---4		8.1		35	4.2	130

LEGEND

EER — Energy Efficiency Ratio

*Rated in accordance with ARI Standard 310/380-93.

†All 265-v units require Accessory Hard-Wire Kit or the Accessory Cord-Connected Kit for installation. Use of the Accessory Cord-Connected Kit requires the installation of the Subbase, along with a field-supplied receptacle. Receptacle configurations of the Accessory Cord-Connected Kit are shown at right.

RECEPTACLES AND FUSE TYPES

UNIT NAMEPLATE VOLTAGE	265		
OUTLET RATED VOLTS/AMPS	277/15	277/20	277/30
OUTLET BLADE CONFIGURATION	A	B	C
FEMALE RECEPTACLE MANUFACTURER'S PART NO. Arrow-Hart Hubbell Eagle	 5302 — 834B-BOX	 7621 — 834B-BOX	 5795N 9315 —
TIME DELAY FUSE OR HACR CIRCUIT BREAKER (AMPS)	15	20	30

LEGEND

HACR — Heating, Air Conditioning, and Refrigeration

EXPANDED RATINGS DATA

COOLING PERFORMANCE — 52SC, SE, SQ 7000 AND 9000 BTU MODELS
(230 AND 265 V)

ALL 7000 NOMINAL BTUH MODELS

Evaporator entering air temp. — 80 F Evap. air — 280 CFM

TEMP. (F) AIR ENT. COND. (40% RH)		EVAP. AIR — EWB (F)			
		57.00	62.00	67.00	72.00
80	MBtuh	7.11	7.12	7.86	8.79
	kW	0.58	0.58	0.57	0.57
	I	2.06	2.06	2.02	1.98
85	MBtuh	6.92	6.94	7.64	8.55
	kW	0.61	0.61	0.60	0.59
	I	2.17	2.16	2.12	2.08
90	MBtuh	6.74	6.73	7.40	8.29
	kW	0.64	0.64	0.63	0.62
	I	2.28	2.29	2.23	2.20
95	MBtuh	6.56	6.62	7.17	8.02
	kW	0.66	0.67	0.65	0.65
	I	2.39	2.41	2.34	2.32
100	MBtuh	6.33	6.32	6.88	7.77
	kW	0.69	0.70	0.68	0.67
	I	2.53	2.53	2.47	2.44
105	MBtuh	6.11	6.12	6.59	7.51
	kW	0.73	0.72	0.71	0.70
	I	2.66	2.65	2.61	2.56
110	MBtuh	5.90	5.90	6.32	7.20
	kW	0.75	0.75	0.74	0.73
	I	2.79	2.78	2.74	2.70
115	MBtuh	5.66	5.67	6.03	6.86
	kW	0.79	0.78	0.77	0.77
	I	2.92	2.92	2.87	2.85

ALL 9000 NOMINAL BTUH MODELS

Evaporator entering air temp. — 80 F Evap. air — 300 CFM

TEMP. (F) AIR ENT. COND. (40% RH)		EVAP. AIR — EWB (F)			
		57.00	62.00	67.00	72.00
80	MBtuh	8.81	9.00	9.69	10.00
	kW	0.81	0.80	0.79	0.77
	I	5.76	5.72	5.60	5.38
85	MBtuh	8.70	8.86	9.59	10.00
	kW	0.84	0.84	0.83	0.81
	I	6.09	6.12	5.96	5.78
90	MBtuh	8.54	8.70	9.47	9.99
	kW	0.88	0.88	0.87	0.85
	I	6.47	6.47	6.36	6.13
95	MBtuh	8.39	8.54	9.34	9.96
	kW	0.92	0.92	0.91	0.88
	I	6.84	6.83	6.76	6.48
100	MBtuh	8.19	8.30	9.16	9.86
	kW	0.96	0.96	0.95	0.93
	I	7.16	7.15	7.11	6.90
105	MBtuh	8.00	8.06	8.97	9.77
	kW	0.99	0.99	0.99	0.98
	I	7.48	7.47	7.47	7.32
110	MBtuh	7.80	7.82	8.75	9.59
	kW	1.03	1.03	1.03	1.02
	I	7.79	7.79	7.79	7.71
115	MBtuh	7.60	7.59	8.52	9.39
	kW	1.07	1.07	1.07	1.07
	I	8.09	8.11	8.09	8.07

COOLING PERFORMANCE — 52SC, SE, SQ 12,000 AND 14,000 BTU MODELS
(230 AND 265 V)

ALL 12,000 NOMINAL BTUH MODELS

Evaporator entering air temp. — 80 F Evap. air — 370 CFM

TEMP. (F) AIR ENT. COND. (40% RH)		EVAP. AIR — EWB (F)			
		57.00	62.00	67.00	72.00
80	MBtuh	11.10	11.70	13.40	15.30
	kW	1.15	1.15	1.16	1.16
	I	7.63	7.63	7.70	7.66
85	MBtuh	10.70	11.30	12.90	14.80
	kW	1.20	1.20	1.21	1.21
	I	8.04	8.04	8.13	8.11
90	MBtuh	10.30	10.70	12.40	14.30
	kW	1.25	1.25	1.26	1.26
	I	8.50	8.48	8.57	8.54
95	MBtuh	9.92	10.20	11.80	13.80
	kW	1.31	1.30	1.31	1.31
	I	8.96	8.93	9.00	8.96
100	MBtuh	9.51	9.66	11.30	13.20
	kW	1.36	1.35	1.36	1.36
	I	9.38	9.35	9.39	9.43
105	MBtuh	9.11	9.13	10.70	12.50
	kW	1.41	1.41	1.41	1.42
	I	9.79	9.78	9.78	9.89
110	MBtuh	8.71	8.71	10.10	11.90
	kW	1.46	1.46	1.46	1.48
	I	10.20	10.20	10.10	10.30
115	MBtuh	8.32	8.24	9.46	11.20
	kW	1.51	1.52	1.51	1.53
	I	10.50	10.60	10.60	10.70

ALL 14,000 NOMINAL BTUH MODELS

Evaporator entering air temp. — 80 F Evap. air — 320 CFM

TEMP. (F) AIR ENT. COND. (40% RH)		EVAP. AIR — EWB (F)			
		57.00	62.00	67.00	72.00
80	MBtuh	11.90	13.10	14.10	14.90
	kW	1.41	1.38	1.34	1.31
	I	7.89	7.71	7.49	7.28
85	MBtuh	11.70	12.90	13.90	14.90
	kW	1.48	1.45	1.41	1.37
	I	8.28	8.11	7.87	7.67
90	MBtuh	11.40	12.60	13.70	14.70
	kW	1.53	1.52	1.48	1.44
	I	8.64	8.55	8.28	8.06
95	MBtuh	11.20	12.40	13.50	14.50
	kW	1.59	1.59	1.55	1.50
	I	9.00	8.99	8.70	8.44
100	MBtuh	10.90	12.00	13.20	14.20
	kW	1.65	1.66	1.62	1.57
	I	9.40	9.42	9.19	8.88
105	MBtuh	10.70	11.70	13.00	13.90
	kW	1.72	1.72	1.70	1.64
	I	9.79	9.85	9.67	9.32
110	MBtuh	10.40	11.30	12.70	14.00
	kW	1.78	1.79	1.78	1.73
	I	10.20	10.30	10.20	9.89
115	MBtuh	10.10	11.00	12.50	14.10
	kW	1.85	1.85	1.86	1.82
	I	10.70	10.70	10.80	10.50

LEGEND

EWB — Entering Wet Bulb
I — Compressor Current Amps
kW — Total Power
MBtuh — Total Cooling Capacity
RH — Relative Humidity

PRODUCT DATA (cont)

EXPANDED RATINGS DATA (cont)

HEAT PUMP HEATING PERFORMANCE*

OUTDOOR TEMP (F)	MODEL 52SQ (230V)					
	7000 Nominal Btuh			9000 Nominal Btuh		
	Btuh	Amps	Watts	Btuh	Amps	Watts
70	9,290	2.4	657	11,300	4.8	1,040
65	8,510	2.3	648	10,700	4.6	1,000
60	7,960	2.2	632	9,860	4.4	950
55	7,280	2.2	622	9,130	4.2	905
50	6,790	2.2	607	8,320	4.0	860
47 (RATING POINT)	6,100	2.1	597	8,000	3.9	840
45	6,050	2.1	590	7,680	3.8	825
40	5,550	2.1	583	6,990	3.6	785
35	4,930	2.0	577	6,430	3.5	755

*Heat pump performance is based on 70 F indoor temperature.

HEAT PUMP HEATING PERFORMANCE (cont)

OUTDOOR TEMP (F)	MODEL 52SQ (230V)					
	12,000 Nominal Btuh			14,000 Nominal Btuh		
	Btuh	Amps	Watts	Btuh	Amps	Watts
70	15,400	7.2	1,630	13,957	6.2	1,357
65	14,500	6.9	1,530	13,521	6.2	1,359
60	13,300	6.4	1,430	13,155	6.2	1,350
55	12,500	6.1	1,350	12,575	6.1	1,340
50	11,400	5.7	1,270	12,000	6.1	1,316
47 (RATING POINT)	10,700	5.5	1,240	11,000	6.0	1,310
45	10,600	5.4	1,210	10,900	5.9	1,290
40	9,620	5.1	1,140	10,820	5.8	1,263
35	8,880	4.8	1,090	10,111	5.7	1,239

*Heat pump performance is based on 70 F indoor temperature.

COOLING SENSIBLE HEAT FACTORS (SHF) AT 80 F INDOOR DB

MODEL 52SE,SQ (230 v)	INDOOR WB (F)	OUTDOOR AMBIENT DB TEMPERATURE (F)							
		80	85	90	95	100	105	110	115
7,000 Nominal Btuh Models	57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	62	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	67	0.77	0.78	0.79	0.80	0.82	0.83	0.86	0.88
	72	0.54	0.54	0.55	0.56	0.56	0.57	0.58	0.59
9,000 Nominal Btuh Models	57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	62	0.92	0.94	0.95	0.96	0.97	0.99	1.00	1.00
	67	0.69	0.70	0.71	0.72	0.73	0.74	0.76	0.77
	72	0.51	0.51	0.51	0.52	0.52	0.53	0.53	0.54
12,000 Nominal Btuh Models	57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	62	0.91	0.91	0.94	0.96	0.98	1.00	1.00	1.00
	67	0.68	0.69	0.70	0.72	0.73	0.75	0.77	0.79
	72	0.50	0.50	0.50	0.51	0.51	0.52	0.53	0.54
14,000 Nominal Btuh Models	57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	62	0.79	0.80	0.80	0.86	0.83	0.84	0.85	0.86
	67	0.63	0.63	0.63	0.67	0.64	0.64	0.65	0.66
	72	0.48	0.48	0.48	0.49	0.49	0.49	0.49	0.49

LEGEND

DB — Dry Bulb
WB — Wet Bulb

INDOOR SOUND DATA

The table below indicates the approximate indoor sound level of a 52S unit. Tests were conducted in the Carrier Sound Testing Laboratory according to ARI (Air Conditioning and Refrigeration Institute) Noise Rating Standard 300 for non-ducted indoor air-conditioning equipment.

INDOOR SOUND ESTIMATING TABLE — ARI 300 NR (BELS)

OPERATING MODE	VOLTS	NOMINAL SIZES (Btuh)							
		52SQ				52SE,SC			
		7,000	9,000	12,000	14,000	7,000	9,000	12,000	14,000
FAN	230	5.2	5.2	6.2	6.4	5.1	5.8	6.2	6.4
	208	4.9	4.9	6.1	6.3	4.8	5.8	6.1	6.3
	265	4.7	5.7	5.8	6.0	4.7	5.8	5.6	5.9
LO COOL	230	5.6	5.6	5.9	6.1	5.5	5.9	5.9	6.1
	208	5.3	5.5	5.8	6.0	5.2	5.7	5.8	6.0
	265	5.3	6.0	5.8	5.7	5.4	5.8	5.9	5.5
HI COOL	230	6.1	6.1	6.4	6.8	6.0	6.2	6.6	6.6
	208	6.0	6.0	6.3	6.7	5.9	6.1	6.5	6.5
	265	5.6	6.3	6.4	6.2	5.7	6.2	6.4	6.2
LO HEAT	230	5.6	5.9	6.2	6.5	5.1	5.8	6.2	6.4
	208	5.3	5.6	6.1	6.4	4.8	5.5	6.1	6.3
	265	5.2	6.0	5.7	6.0	4.7	5.8	5.6	5.9
HI HEAT	230	6.1	6.1	6.4	6.6	5.5	6.1	6.3	6.1
	208	6.0	6.0	6.3	6.5	5.3	6.0	6.3	6.0
	265	5.6	6.3	6.3	6.1	5.5	6.1	6.3	6.1

LEGEND

ARI 300 NR — ARI Standard 300 Noise Rating in bels

OUTDOOR SOUND ESTIMATING TABLE — ARI 300 NR (BELS)

OPERATING MODE	VOLTS	NOMINAL SIZES (Btuh)							
		52SQ				52SE,SC			
		7,000	9,000	12,000	14,000	7,000	9,000	12,000	14,000
FAN	230	6.0	6.0	6.6	7.2	6.0	6.7	6.6	7.2
	208	5.8	5.8	6.4	7.1	5.8	6.5	6.4	7.1
	265	5.5	6.9	6.1	6.7	5.4	6.6	6.3	6.6
LO COOL	230	6.5	6.7	7.1	7.8	6.5	6.8	7.1	8.0
	208	6.3	6.5	7.0	7.7	6.3	6.6	7.0	7.9
	265	6.2	7.0	6.3	6.7	6.3	6.6	6.3	6.7
HI COOL	230	6.7	6.9	7.5	8.0	6.8	7.1	7.3	8.0
	208	6.7	6.9	7.2	7.9	6.7	7.0	7.1	7.9
	265	6.4	7.5	6.9	7.0	6.4	6.9	6.9	6.9
LO HEAT	230	6.5	6.8	7.2	7.9	—	—	—	—
	208	6.4	6.7	6.9	7.8	—	—	—	—
	265	6.2	7.1	6.2	7.0	—	—	—	—
HI HEAT	230	6.8	6.9	7.4	8.1	—	—	—	—
	208	6.7	6.8	7.2	8.0	—	—	—	—
	265	6.5	7.5	6.9	7.1	—	—	—	—

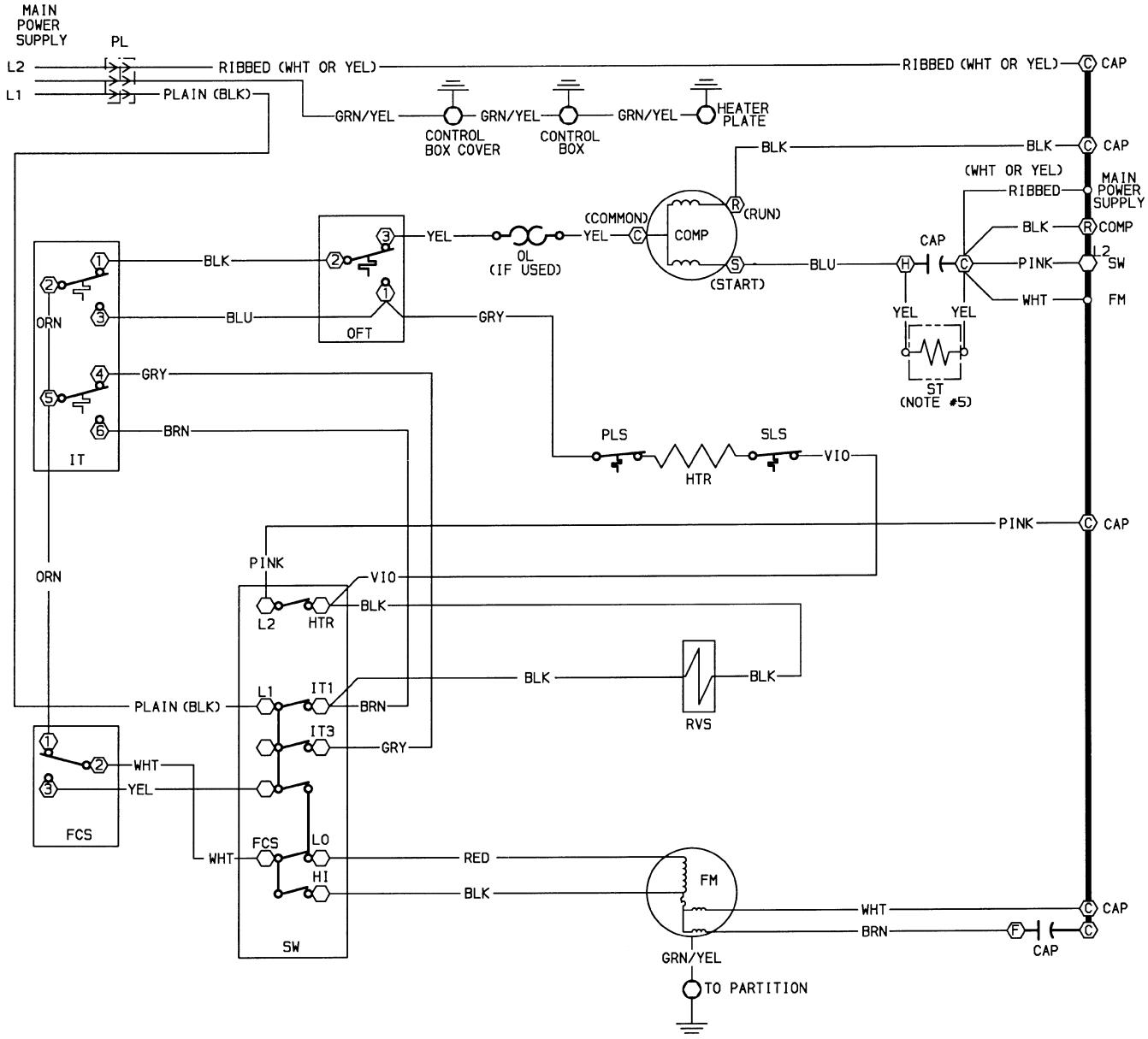
LEGEND

ARI 300 NR — ARI Standard 300 Noise Rating in bels

NOTE: STC (Sound Transmission Coefficient) for Model 52S Series:

Standard Outdoor Grille — 22
Architectural Grille — 21

WIRING DIAGRAMS



LEGEND

CAP	—	Capacitor
COMP	—	Compressor
FCS	—	Fan Cycle Switch
FM	—	Fan Motor
HTR	—	Heater
IT	—	Indoor Thermostat
L	—	Power Supply Line
OFT	—	Outdoor Frost Thermostat
OL	—	Overload
PL	—	Plug
PLS	—	Primary Limit Switch
RVS	—	Reversing Valve Solenoid
SLS	—	Secondary Limit Switch
ST	—	Start Thermistor
SW	—	Switch

Component Connection (Marked)

Component Connection (Unmarked)

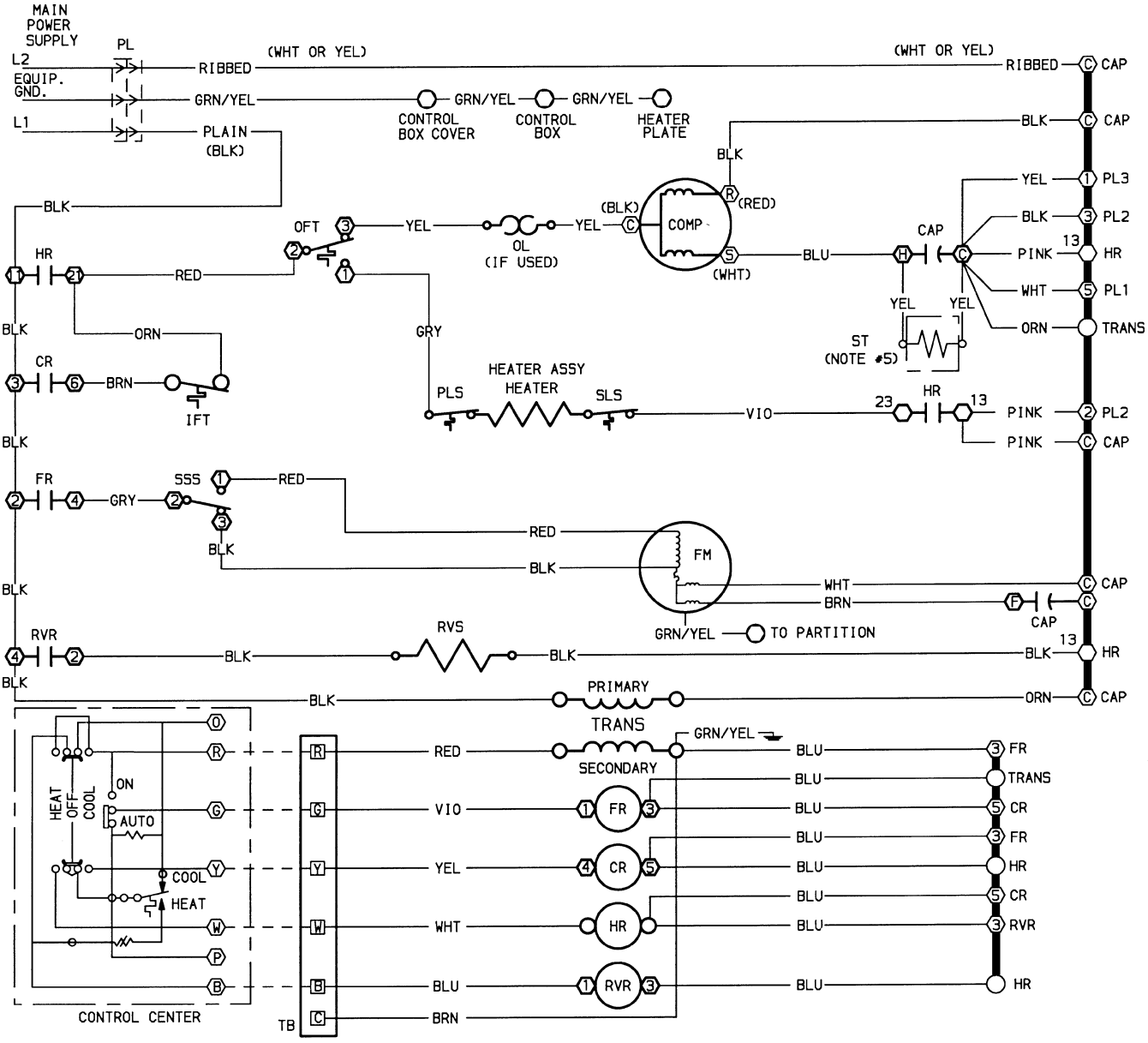
Accessory or Optional Wiring

Factory Wiring

To Indicate Common Potential Only Not to Represent Wire

NOTES:
1. Recommended for use on grounded power supply only.
2. Compressor and fan motor thermally protected.
3. Use copper conductors only.
4. All wiring must conform with NEC (National Electrical Code) and local codes.
5. Dashed lines indicate components when used.

52SQ — Typical Wiring Schematic For Standard Units



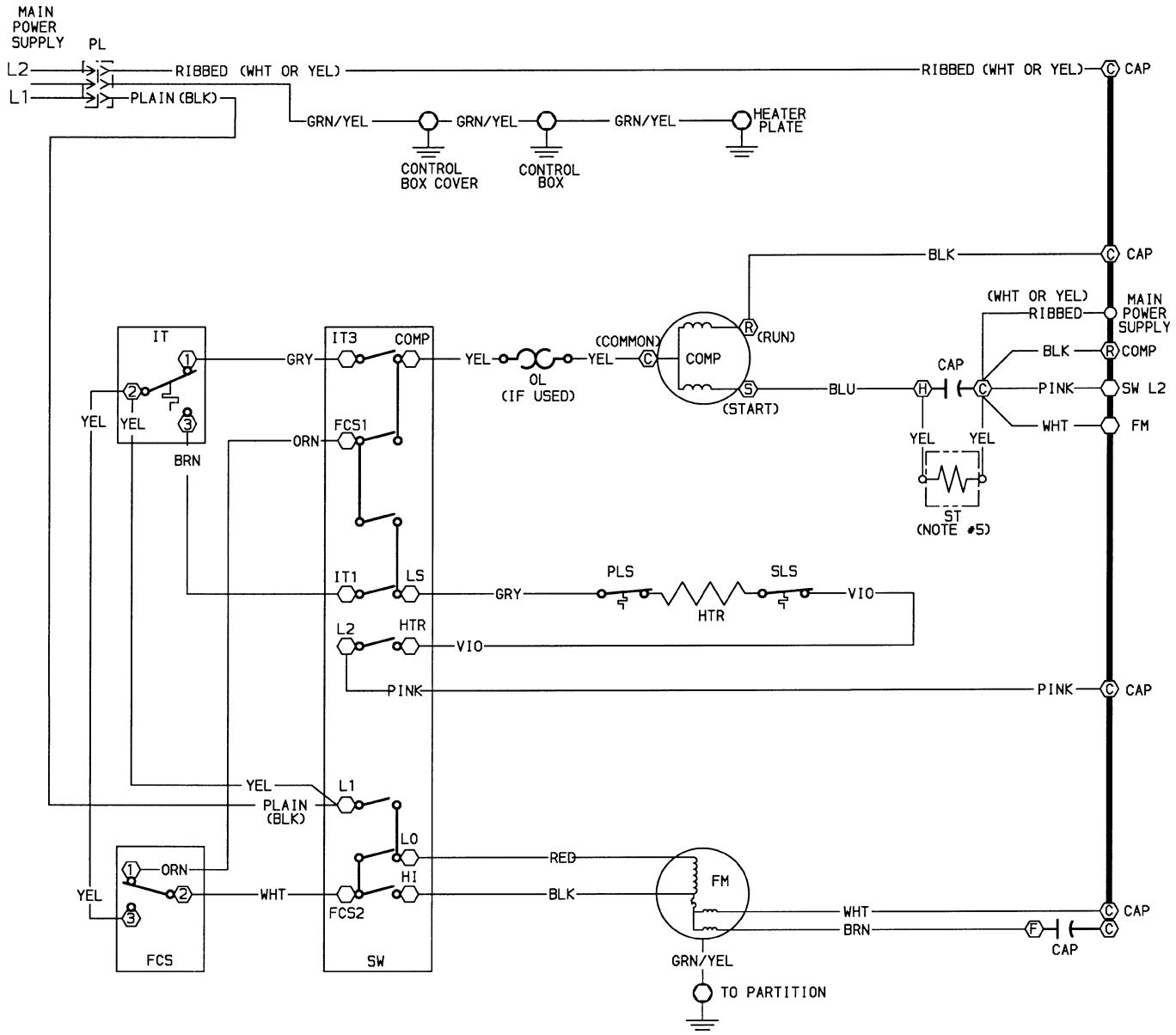
LEGEND

CAP	— Capacitor	**PL**	— Plug	○	Component Connection (Unmarked)
COMP	— Compressor	**PLS**	— Primary Limit Switch	□	Terminal Board Connection
CR	— Cooling Relay	**RVR**	— Reversing Valve Relay	- - - -	Field Control Wiring
EQUIP GND	— Equipment Ground	**RVS**	— Reversing Valve Solenoid	— - — -	Accessory or Optional Wiring
FM	— Fan Motor	**SLS**	— Secondary Limit Switch	———	Factory Wiring
FR	— Fan Relay	**SSS**	— Speed Selector Switch	⬡	Component Connection (Marked)
HR	— Heating Relay	**ST**	— Start Thermistor	▬	To Indicate Common Potential Only Not to Represent Wire
IFT	— Indoor Frost Thermostat	**TB**	— Terminal Board		
L	— Power Supply Line	**TRANS**	— Transformer		
OFT	— Outdoor Frost Thermostat				
OL	— Overload				

NOTES:
1. Recommended for use on grounded power supply only.
2. Compressor and fan motor thermally protected.
3. Use copper conductors only.
4. All wiring must conform with NEC (National Electrical Code) and local codes.
5. Dashed lines indicate components when used.
6. Control center uses thermostat part no. HH01AD045 or equivalent.
7. Field control wire suitable for NEC class 2 control circuit, at 24 volts.

52SQ — Typical Wiring Schematic for Wall Thermostat Control Units

WIRING DIAGRAMS (cont)



LEGEND

CAP	—	Capacitor
COMP	—	Compressor
FCS	—	Fan Cycle Switch
FM	—	Fan Motor
HTR	—	Heater
IT	—	Indoor Thermostat
L	—	Power Supply Line
LS	—	Limit Switch
OL	—	Overload
PL	—	Plug
PLS	—	Primary Limit Switch
SLS	—	Secondary Limit Switch
ST	—	Start Thermistor
SW	—	Switch

Component Connection (Marked)

Component Connection (Unmarked)

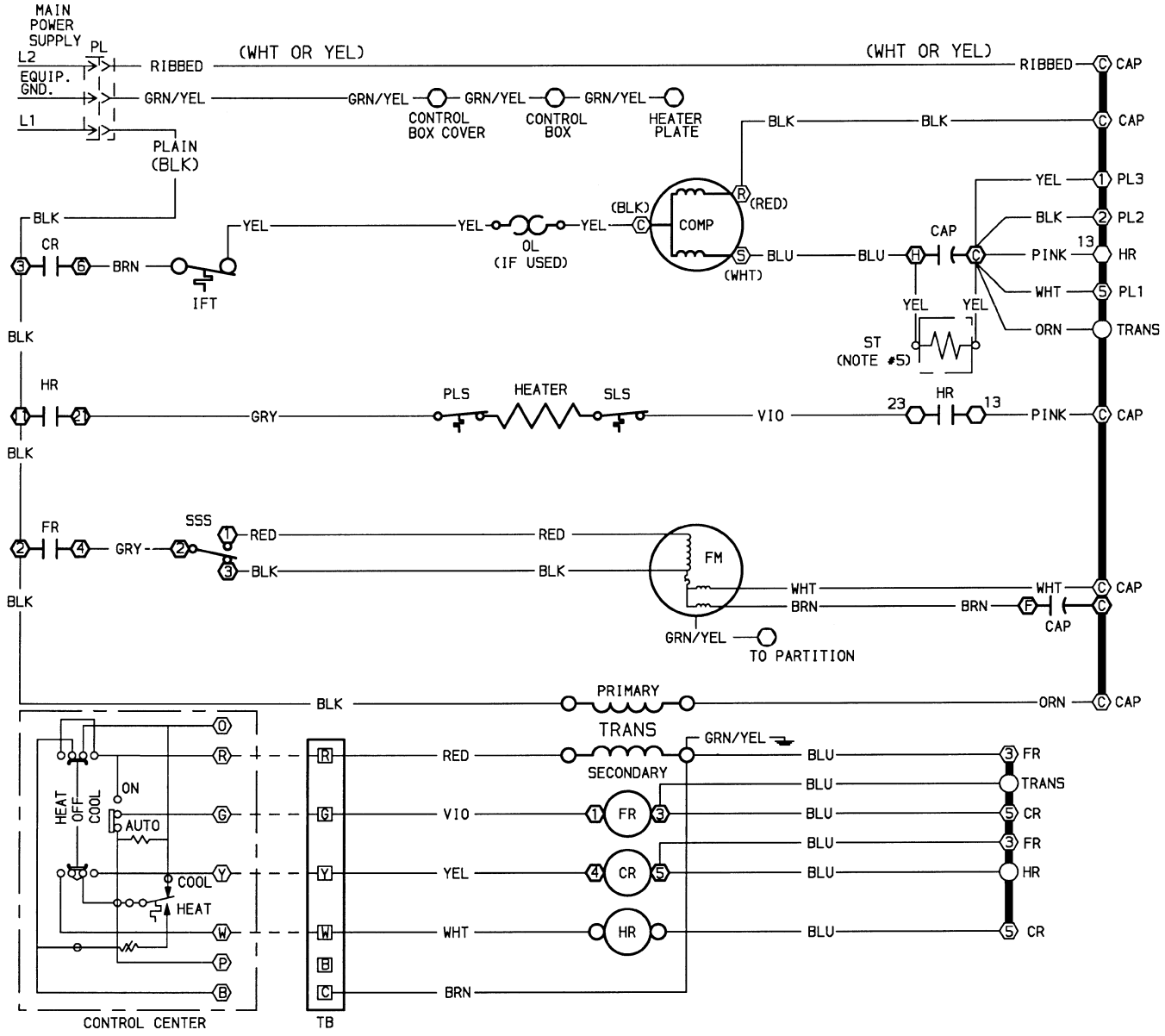
Accessory or Optional Wiring

Factory Wiring

To Indicate Common Potential Only
Not to Represent Wire

NOTES:
1. Recommended for use on grounded power supply only.
2. Compressor and fan motor thermally protected.
3. Use copper conductors only.
4. All wiring must conform with NEC (National Electrical Code) and local codes.
5. Dashed lines indicate components when used.

52SE — Typical Wiring Schematic For Standard Units



LEGEND

CAP — Capacitor
COMP — Compressor
CR — Cooling Relay
EQUIP GND — Equipment Ground
FM — Fan Motor
FR — Fan Relay
HR — Heating Relay
IFT — Indoor Frost Thermostat
L — Power Supply Line
OL — Overload
PL — Plug
PLS — Primary Limit Switch
SLS — Secondary Limit Switch
SSS — Speed Selector Switch
ST — Start Thermistor
TB — Terminal Board
TRANS — Transformer

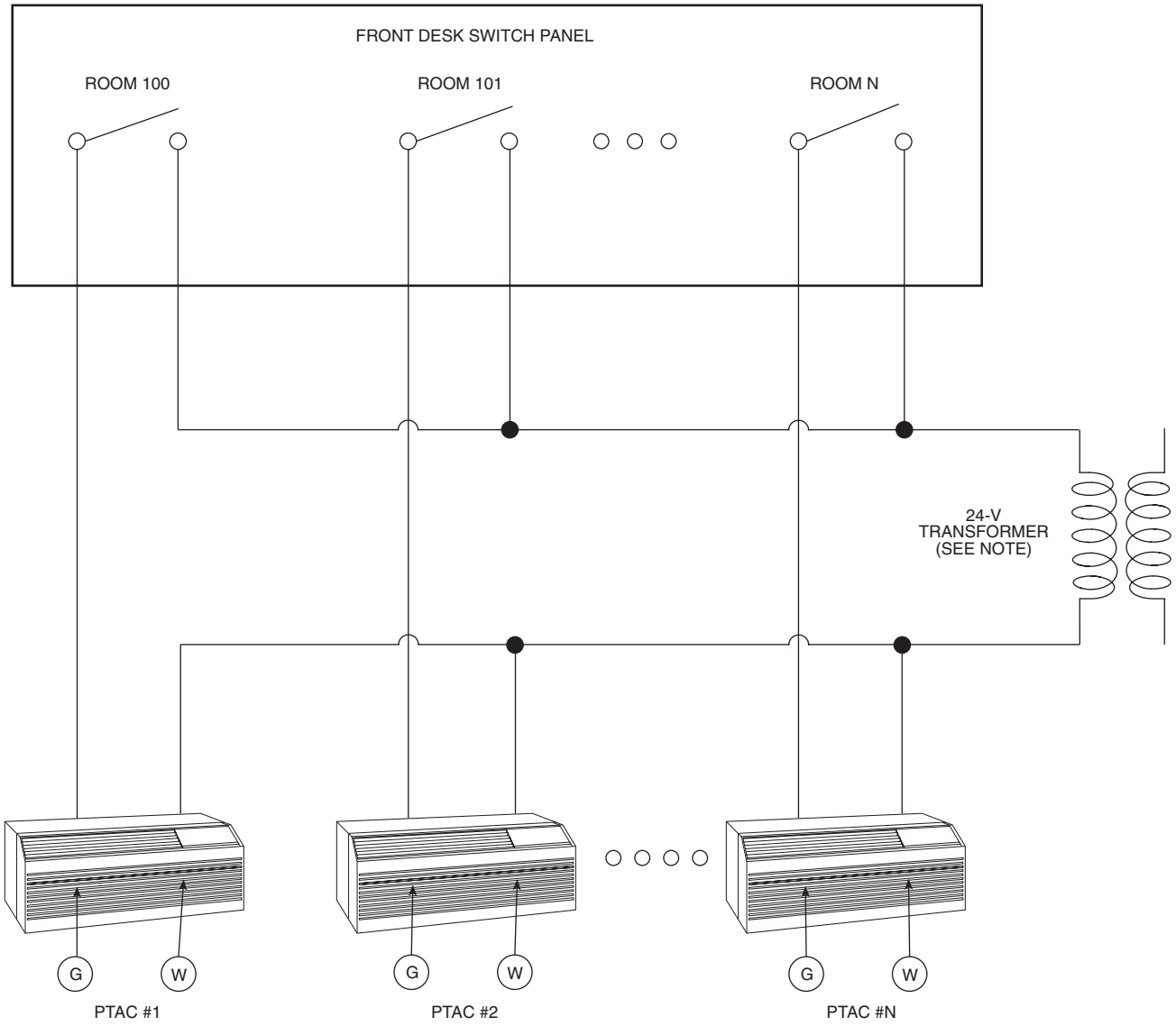
Component Connection (Marked)
Component Connection (Unmarked)

Terminal Board Connectior
Field Ground Wiring
Field Control Wiring
Accessory or Optional Wiri
Factory Wiring
To Indicate Common Potential Only Not to Represent Wire

NOTES:
1. Recommended for use on grounded power supply only.
2. Compressor and fan motor thermally protected.
3. Use copper conductors only.
4. All wiring must conform with NEC (National Electrical Code) and local codes.
5. Dashed lines indicate components when used.
6. Control center uses thermostat part no. HH01AD045 or equivalent.
7. Field control wire suitable for NEC class 2 control circuit, at 24 volts.

52SE — Typical Wiring Schematic for Wall Thermostat Control Units

WIRING DIAGRAMS (cont)



LEGEND

AWG — American Wire Gage
PTAC — Packaged Terminal Air Conditioner

NOTES:

1. To size transformer, use the following equation:
   Quantity of PTAC units x 12 va = Transformer Size (va)
   Example: 110 PTAC Units x 12 va = 1320 va Transformer
2. Following are recommended wire sizes:

AWG WIRE SIZE NO.	MAXIMUM LENGTH (ft)
24	400
22	600
20	900
18	1500
16	2000

Typical Wiring Schematic for Energy Management Kit

GUIDE SPECIFICATIONS

PACKAGED TERMINAL COOLING UNIT WITH HEAT PUMP OR ELECTRIC HEATING

HVAC Guide Specifications

Size Range: Cooling: 7,100 to 13,700 Btuh
Heating: 6,100 to 11,000 Btuh Heat Pump
6,400 to 17,000 Btuh Electric

Carrier Model Numbers: 52SC Cooling Only Unit
52SE Unit with Electric Heat
52SQ Heat Pump

Part 1 — General

1.01 SYSTEM DESCRIPTION

Single piece, thru-the-wall electrically controlled unit using hermetic rotary compressor for cooling and heat pump or electric resistance heat, as shown on the contract drawings.

1.02 QUALITY ASSURANCE

Unit shall be rated in accordance with ARI Standard 310/380-93 and certified by UL and UL, Canada.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

Part 2 — Products

2.01 EQUIPMENT

A. General:

Factory-assembled, single-piece heating and/or cooling unit. Contained within the unit enclosure shall be compressor, coils, fans and fan motor, heating means, controls, all wiring and piping, and a full refrigerant charge (R-22).

B. Front Panel (supplied with unit) and Wall Sleeve: Wall sleeve and front panel shall be of plastic material. Front panel to have louvers in front surface.

C. Fans and Motor:

1. Evaporator (indoor) fan shall be a single-inlet squirrel cage blower with a corrosion-resistant finish, discharging air upwards. Fan shall be dynamically balanced.
2. Condenser (outdoor) fan shall be a propeller type with corrosion-resistant finish, discharging air out the rear of the unit, and shall be dynamically balanced.
3. Motor shall be totally enclosed, permanently lubricated, and multiple speed.

D. Compressor:

The compressor shall be fully hermetic with internal and external vibration isolation.

E. Coils:

The coils shall have aluminum plate fins mechanically bonded to seamless copper tubes internally enhanced (grooved) with all joints brazed.

F. Refrigerant Components:

All piping, compressor, and expansion devices shall be included.

G. Controls and Safeties:

1. Controls shall consist of pushbutton OFF/ FAN/ HEAT/COOL adjustable thermostat with upper and lower limits, VENT OPEN/CLOSE, and FAN CYCLE switches. Additional controls for heat pumps include outdoor coil defrost thermostat.
2. Safeties shall consist of automatic reset overtemperature and overcurrent protection for *compressor,* inherent, automatic reset overtemperature protection for *fan motor;* two overtemperature protectors for *heater.*

H. Operating Characteristics:

Unit shall be capable of starting and running at 115 F ambient outdoor temperature per maximum load criteria of ARI Standard 310. Compressor with standard controls shall be capable of operation down to 25 F ambient outdoor temperature for heat pump and 55 F ambient outdoor temperature for cooling.

I. Electrical Requirements:

230/208-Volt: Shall be prewired with one plug to use with appropriate wall receptacle as specified on unit nameplate.

265-Volt: Shall be hard-wired or cord-connected through subbase.

J. Filter:

1. One-piece washable type that filters supply air.
2. One-piece washable type filter in vent door filters outdoor air.

K. Corrosion Protection (CP):

Corrosion Protection (CP), for coastal or corrosive environments, prolongs the life of the product. Minimum requirements are:

1. All outdoor-exposed sheet metal parts shall be coated with a polyester thermostat powder coat paint.
2. Compressor and outdoor fan motor finish shall be capable of withstanding 500 hours of salt spray testing per ASTM B-117.
3. Compressor mounting screws shall be Sermagard coated.
4. Outdoor coil fin stock shall be coated and able to withstand 1000 hours of salt spray testing per ASTM B-117.
5. Outdoor coil tube sheets must be made of 316L stainless steel.

GUIDE SPECIFICATIONS (cont)

L. Special Features:

Certain standard features are not applicable when the features designated are specified. Contact your local Carrier Sales Office for amending specifications.

1. Factory-installed electric heater for use with heat pump or heat/cool units
2. RC — Wall thermostat control permits unit control from remote thermostat
3. Standard grille (aluminum)
4. Architectural grille (polymeric or aluminum)
5. Hard-wire kit
6. Drain kit
7. Subbase
8. Wall sleeve (UL94-5V rated)
9. Lateral duct kit
10. Energy management accessory kit
11. Cord-connection kit (265 V)
12. Insulation kit
13. Air deflector
14. Security door kit
15. Thermostats
16. Retrofit kits

TYPICAL WARRANTY

Carrier 52S
Packaged Terminal Air Conditioner Warranty

FULL ONE-YEAR WARRANTY - During the first year after purchase, CARRIER will, through its authorized independent servicing dealers or service stations*, and free of charge to the users or subsequent users, repair or replace any parts which are defective in material or workmanship. The replacement part can be a new or remanufactured part as provided at CARRIER'S sole option.

FULL EXTENDED FOUR-YEAR WARRANTY ON SEALED REFRIGERATION SYSTEM ONLY - During the second through fifth years after date of original purchase, CARRIER will, through its authorized independent servicing dealers or service stations, and free of charge to the users or subsequent users, repair or replace the compressor, condenser, evaporator or connecting tubing if defective in material or workmanship. The replacement part can be a new or remanufactured part as provided at CARRIER'S sole option.

LIMITED EXTENDED FOUR-YEAR WARRANTY ON NON-SEALED REFRIGERATION SYSTEM ONLY - During the second through fifth years after date of original purchase, CARRIER will, through its authorized independent servicing dealers or service stations, and free of charge to the users or subsequent users, repair or replace any non-sealed system part (motor, solenoid, thermistor, thermostat, relays, switch, capacitor, overload, drain valve, bulb heater, fan, stator) if defective in material or workmanship. The replacement part can be a new or remanufactured part as provided at CARRIER'S sole option. THIS LIMITED WARRANTY DOES NOT INCLUDE LABOR, user is responsible for labor, including cost of diagnosis of problem, removal and transportation of the air conditioner to and from the service center, and reinstallation charges necessary to accomplish repair.

LIMITATION OF WARRANTIES - ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH EACH LIMITED WARRANTY IS GIVEN AND APPLIES. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THAT THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER.

ALL WORK UNDER THE TERMS OF THIS WARRANTY SHALL BE PERFORMED DURING NORMAL WORKING HOURS. ALL REPLACEMENT PARTS, WHETHER NEW OR REMANUFACTURED, ASSUME AS THEIR WARRANTY PERIOD ONLY THE REMAINING PERIOD OF THIS WARRANTY.

CARRIER WILL NOT BE RESPONSIBLE FOR:

1. Damage due to failure to perform maintenance as outlined in the owner's manual.
2. Instructions on method of control and use of air conditioning unit after initial installation.
3. Damage or repairs needed as consequence of faulty installation or application. This is the responsibility of the installer.
4. Failure to start due to voltage conditions, blown fuses, open circuit breakers or any other damage due to the inadequacy or interruption of electrical services.
5. Damage or repairs needed as consequence of any misapplication, abuse unauthorized alteration, improper servicing or operation.
6. Damage as a result of floods, winds, fires, lightning, accidents, or other conditions beyond the control of CARRIER.
7. Damage as a result of corrosive environment (corrosive environment defined as installation or operation of the product within one mile of a seawater body). EXCEPTION TO CORROSIVE ENVIRONMENT IN ABOVE PARAGRAPH - Packaged terminal units (52 Series) built with corrosion protection are exempt from the exclusion - "Corrosive Environment." The model number is identified on the nameplate with a CP suffix.
8. Reimbursement for replacement parts or or repair services which are not supplied or designated by CARRIER and which are specifically covered under this warranty.
9. CARRIER products installed outside the continental U.S.A., Alaska, Hawaii and Canada.
10. Shipping damage or damage as a result of transporting the unit. This is the responsibility of the selling dealer or servicing dealer.
11. ANY SPECIAL, INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion or limitation of incidental or consequential damages, so that above limitation or exclusion may not apply to you.

NOTE: Service and Maintenance items excluded in this warranty may be covered by a separate service agreement through the seller at the time of purchase.

* Authorized independent dealers or service stations are registered with Carrier Air Conditioning thru its distributor organization.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Cat No. 530-105 (New 2/99)

TYPICAL WARRANTY (cont)

Carrier Corporation

IF YOUR AIR CONDITIONER DOES NOT WORK, FOLLOW THESE STEPS IN ORDER:

1. CHECK THE THINGS YOU CAN DO YOURSELF. These include being sure that air conditioner is plugged firmly in an appropriate receptacle, checking the fuse or circuit breaker and ensuring its replacement or resetting, if necessary, and reading the instruction book to ensure that all controls are set properly. By doing this you can save money. Many unnecessary service calls result in the serviceman doing what the owner can do for him or herself.

2. CONTACT YOUR DEALER OR THE CARRIER AUTHORIZED SERVICE CENTER HE RECOMMENDS. They have been set up to handle the great majority of all possible service problems. The quickest, surest and best way to get your air conditioner back in service is to use this step before proceeding further.

3. CONTACT THE CARRIER DISTRIBUTOR SERVICING YOUR AREA. Your dealer knows the distributor's name or you can consult your yellow pages.

4. CONTACT CARRIER IF A SATISFACTORY SOLUTION IS NOT REACHED IN STEP 2 AND 3.

   Carrier Air Conditioning
   Consumer Relations Department
   Carrier Parkway, P.O. Box 4808
   Syracuse, New York 13221
   Telephone: 1-800 Carrier (227-7437)
   From Canada 1-315-432-7885

LITERATURE LIST

	FORM NO.	CATALOG NO.
Warranty certificate		530-105
Installation/Installation, Operating and Maintenance Instructions	52S-63SI	535-20014
Lateral Duct Kit, P/N LAT-DUCT-PLENUM P/N EXTENSION-DUCT	52S-42SI	535-221
265-V Cord-Connected Kit, P/N's PLUG-265V-15AMP, PLUG-265V-20AMP, PLUG-265V-30AMP	52S-38SI	535-217
Drain Kit, P/N DRAIN-KIT-4PK	52S-53SI	535-20005
Energy Management (EM) Kit, P/N EM-KIT	52S-44SI	535-229
Hard-Wire Kit, 230 V, P/N H/W-KIT-230V H/W-KIT-230V-4PK	52S-51SI	535-20003
Hard-Wire Kit, 265 V, P/N H/W-KIT-265V H/W-KIT-265V-4PK	52S-52SI	535-20004
Locking Control Door, P/N SECURITY-DOOR	52S-43SI	535-228
Stamped Aluminum Outdoor Grilles, P/N GRILLE-ALU-STAMP	52S-59SI	535-20011
Polymeric Architectural Grille, P/N GRILLE-PLA-BEIGE, -BROWN	52S-54SI	535-20006
Aluminum Architectural Grille, P/N GRILLE-ALU-BEIGE, -BROWN, -BRONZ, -WHITE, -CLEAR, -ALPINE, -LTGREY	52S-55SI	535-20007
Retrofit Kit (For Amana/Trane Sleeve) P/N AM-RETROFIT-KIT	52S-62SI	535-20014
Retrofit Kit (for GE Sleeve), P/N GE-RETROFIT-KIT	52S-61SI	535-20013
Sleeve Insulation Kit, P/N INSULATION-KIT	52S-57SI	535-20009
Subbase, P/N SUB-BASE	52S-56SI	535-20008
Standard Polymer Wall Sleeve, P/N WALL-SLEEVE-1PK WALL-SLEEVE-9PK	52S-48SI	535-20000
Air Deflector Kit P/N DEFLECTOR-4PK	52S-29SI	535-206
Wiring Diagrams Models SC, SE, SQ	52E,S-3W	535-207